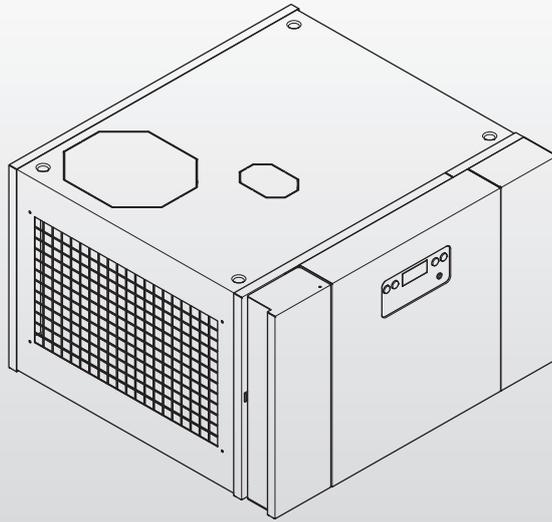


Air Comfort



Installation instructions (English)

Air for Life

BRINK

Air for Life

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614788-A

This appliance may be used by children as of 8 years of age, persons of reduced mental or physical capacities and those of limited experience and know-how, providing they are under supervision or have received instructions on how to operate the appliance safely and are aware of the potential dangers.

Children may not play with the appliance.

Children may not clean or maintain the appliance without supervision.

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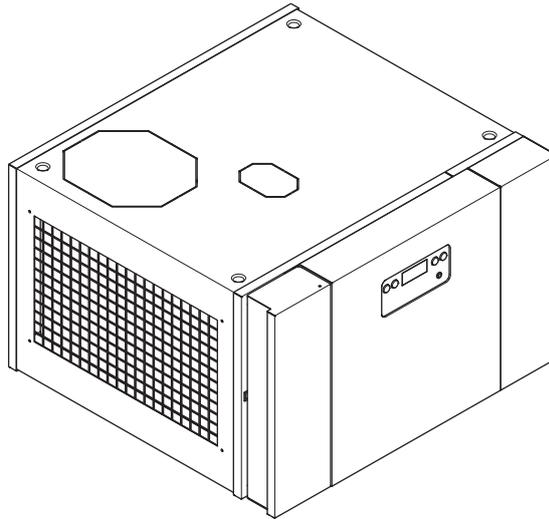
1.1 Delivery size

The appliance package contains:

- A comfort control for heating and/or cooling type Air Comfort
- Occupant's instructions

Before the appliance is installed, first check that the Air Comfort has been delivered complete and undamaged.

Should anything not be in order, contact BRINK CLIMATE SYSTEMS B.V..



Air Comfort appliance

1.2 Accessories

The below accessories can be used in combination with the Air Comfort appliance.

Article description	Article code
Acoustic return plate Air Comfort (d = 120 mm)	217100
Assembly table Air Comfort (H = 200 mm)	217101
CO ₂ -sensor eBus	532126
4-Position switch with filter indication	540262
Wireless remote control 4-position set	532174
Discharge module white RAL 9016 (H = 250 mm)	217102
Siphon for Renovent Excellent	217103

2.1 Use

The Air Comfort appliance provides comfort control for heating and/or cooling. In order to achieve a perfect interior climate with a constant room temperature, the air flow is automatically adjusted according to the discharge temperature. If required, the appliance can (partially) suck in outside air.

The Air Comfort appliance is suitable for:

- Installations that provide hot water
- District heating

The appliance can be combined with the heat recovery unit Renovent Excellent type 4/0 or type 3/1.

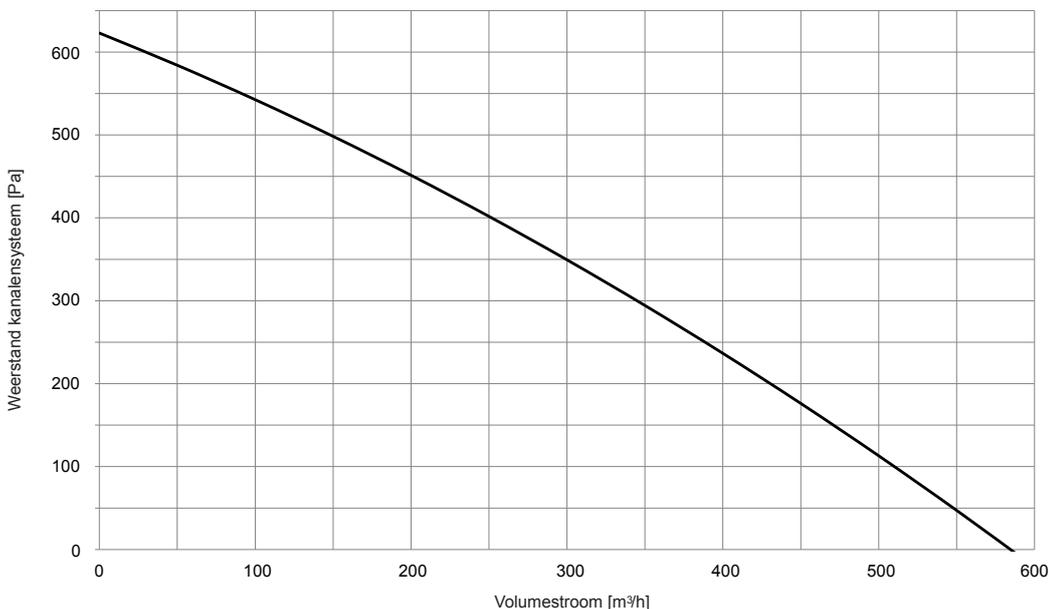
A 4-position switch can be used to set various operating modes on the appliance.

3.1 Technical information

3.1.1 Air Comfort

Specification		Value	
		Nominal	Maximal
Supply voltage	[V/Hz]	230/50	
Dimensions (l x w x h)	[mm]	676 x 640 x 429	
Weight	[kg]	40	
Filter class		G3	
Water connection (Ø)	[mm]	22	
Water capacity exchanger	[l]	2	
Water range	[°C]	45/35	
Air suction temperature	[°C]	18	
Maximum operating pressure exchanger	[bar]	16	
		Nominal	Maximal
Air displacement	[m ³ /h]	400	450
Permissible duct resistance design conditions	[Pa]	100	126
Power consumption	[W]	55	72
Sound power - box emission	[db(A)]	51.1	53.3
Sound power - duct "to home"	[db(A)]	59.3	62.9
Heating capacity	[kW]	2.6	2.8
Water capacity	[l/h]	225	249
Water pressure head	[kPa]	1.47	1.78

3.1.2 Theoretical maximum head of appliance



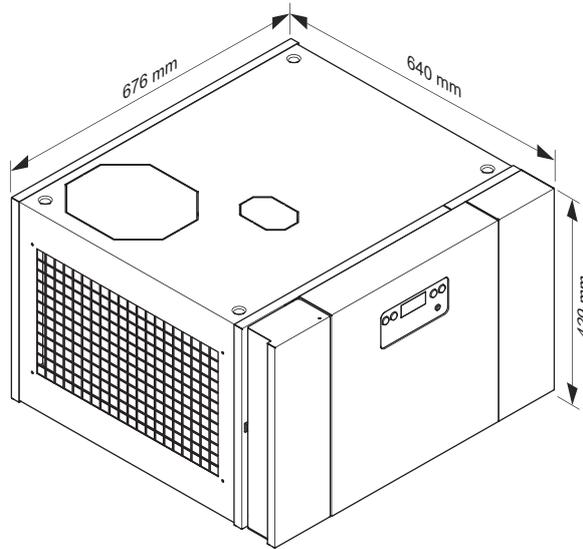
3.1.3 Heating capacity [kW] at other water temperatures

Water range [°C]	Air suction temperature [°C]							
	Nominal				Maximal			
	400 m ³ /h				450 m ³ /h			
	+16	+18	+20	+22	+16	+18	+20	+22
45/35	2.86	2.60	2.34	2.10	3.11	2.80	2.52	2.21
45/40	3.30	3.04	2.76	2.50	3.56	3.28	3.00	2.69
50/35	3.07	2.81	2.52	2.26	3.30	3.02	2.72	2.41
70/50	5.30	5.02	4.73	4.45	5.71	5.40	5.10	4.79

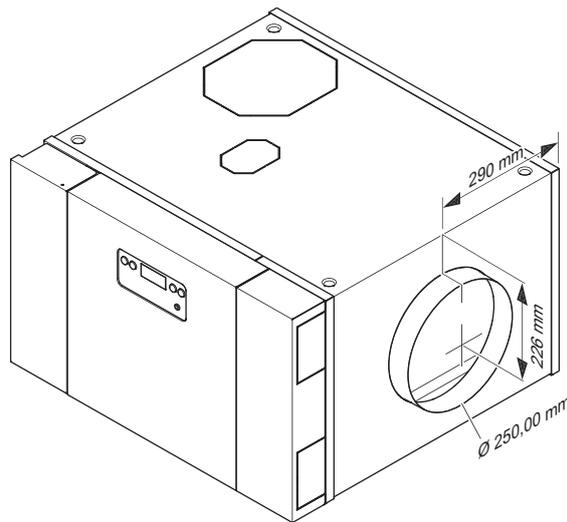
3.1.4 Cooling

Specification		Value	
Water range	[°C]	7/11	
Air suction temperature	[°C]	22	
		Nominal	Maximal
Flow rate	[m ³ /h]	400	450
Cooling capacity	[kW]	1.49/1.59	1.65/1.75
Water capacity	[l/h]	342	376
Water pressure head	[kPa]	3.63	4.32

3.2 Connections and dimensions



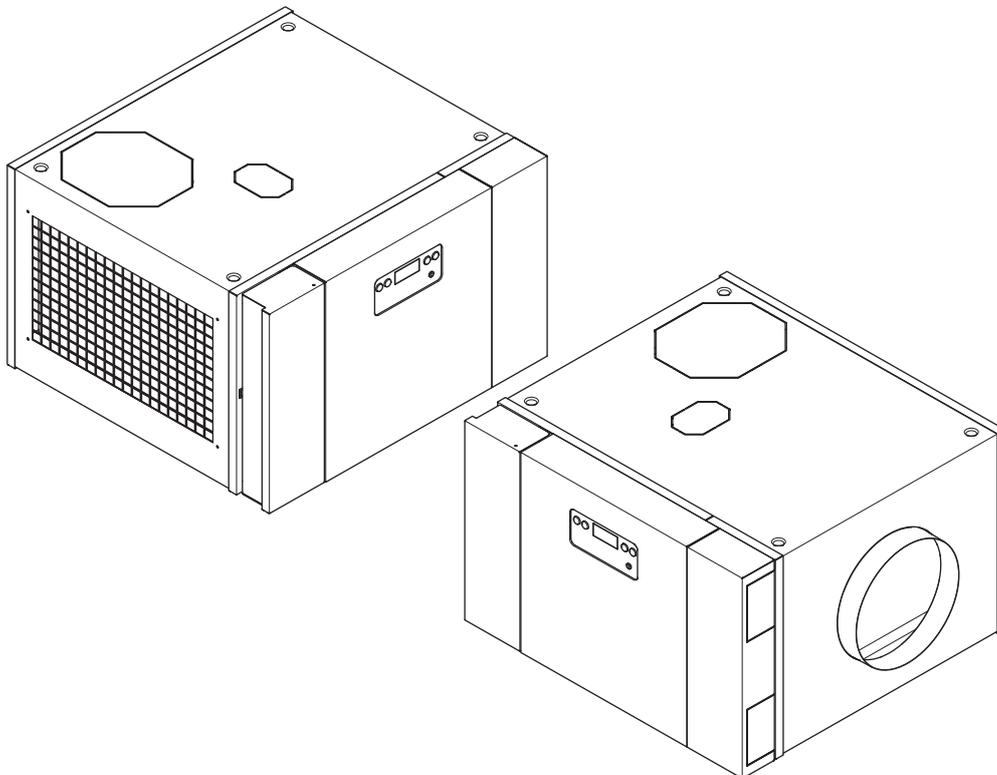
Primary measurements Air Comfort



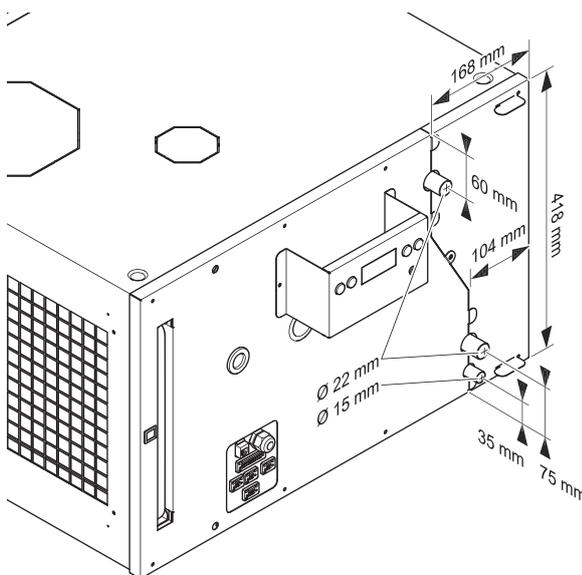
Position of duct connection

3.2.1 Air Comfort right-hand version

With a right-hand version of the Air Comfort the discharge opening is located on the right-hand side.



Air Comfort right-hand version

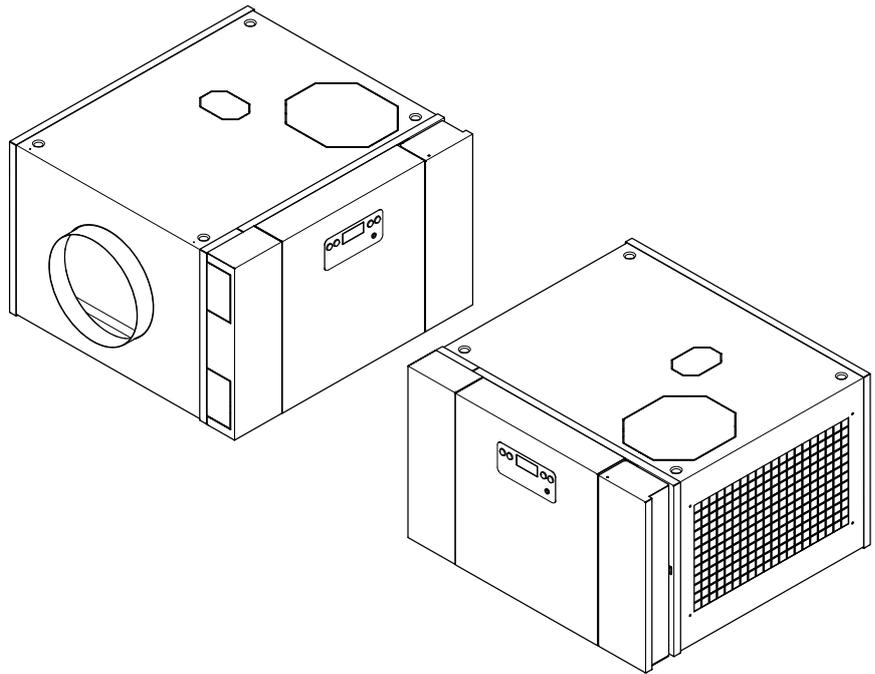


Position of water connection and condensation discharge connection of the right-hand version.

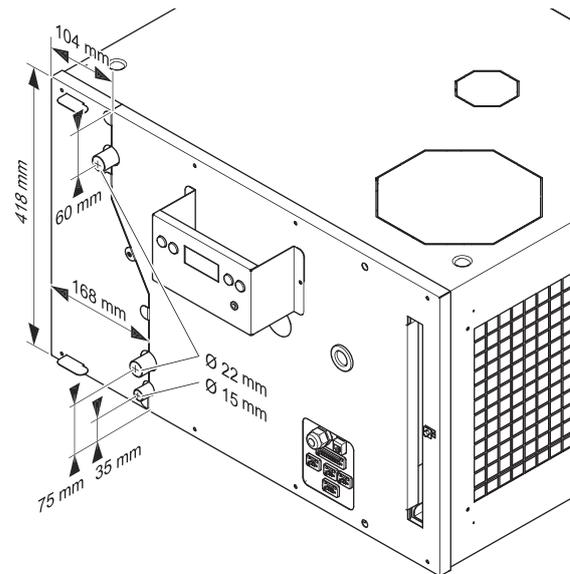
3.2.2 Air Comfort left -hand version

With a left-hand version of the Air Comfort the air outlet is located on the left-hand side.

The measurements of the right-hand and left-hand versions and the position of the air outlet are identical. The water connections are not the same, see section Opened-up appliance, see "Opened-up right-hand appliance" on page 12.

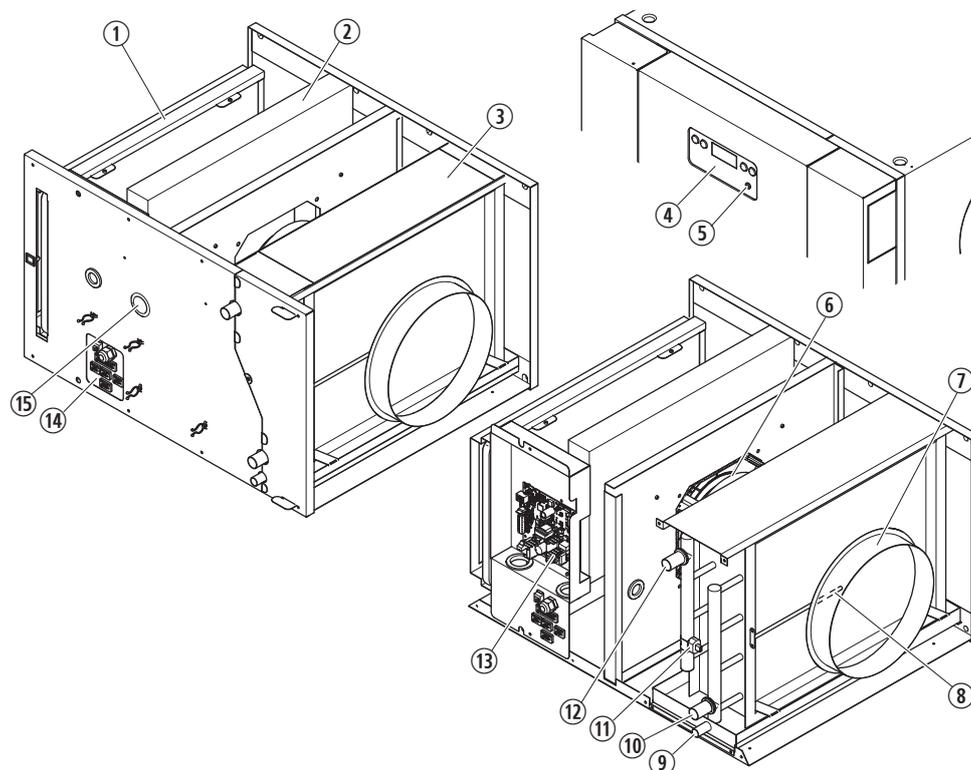


Air Comfort left -hand version



Position of water connection and condensation discharge connection of the left-hand version.

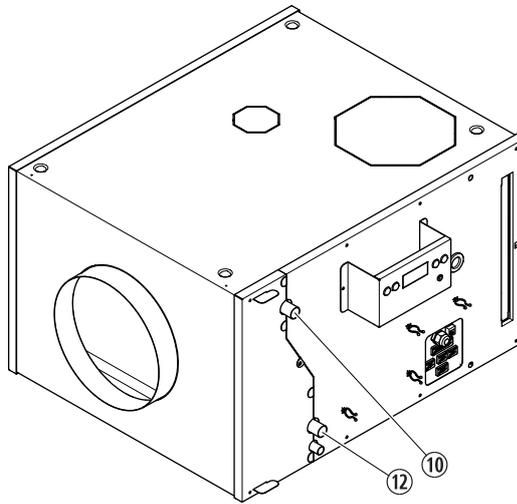
3.3 Opened-up right-hand appliance



Opened-up appliance, right-hand version

1. *Air filter* - The air filter filters the airflow from the house.
2. *Soundproofing blocks* - These blocks absorb the noise of the system's ventilator.
3. *Heat exchanger* - In the heat exchanger, the air is either warmed or cooled.
4. *Control panel* - The appliance is operated using the display and the control buttons on the control panel.
5. *Service connection* - Computer connection for the service tool.
6. *System ventilator* - The ventilator transports the air to the various rooms and sucks back the return air.
7. *Air outlet* - The warm/cold air is blown into the air duct through the air outlet.
8. *Discharge temperature sensor* - This sensor measures the air discharge temperature and controls the speed of the system ventilator.
9. *Condensation discharge* - The condensation that is formed here is discharged only when the appliance is used in combination with cooling (Ø 15 mm).
10. *Water connection (Supply)* - This connection is only used in order to connect the water supply (Ø 22 mm). See the below diagram for the water connections of the left-hand version of this appliance.

11. *Water temperature sensor* - This sensor measures the water temperature and starts the ventilator if this is switched off.
12. *Water connection (Return)* - This connection is used to connect the return water pipes (\varnothing 22 mm). See the below diagram for the water connections of the left-hand version of this appliance.
13. *Circuit board* - The circuit board contains the control electronics for controlling the appliance.
14. *Connectors* - The connectors are located behind the protective cover and are used as extra control inputs and outputs, for example for the CO₂ sensor, the 4-position switch and the frost protection.
15. *Condensation discharge feed-through* - When using the appliance in combination with a heat recovery unit.



Water connections left-hand version Air Comfort

4.1 Description

The Air Comfort provides comfort control for heating and/or cooling.

The air is heated/cooled using a heat exchanger. Depending on the discharge temperature, the system ventilator will transport on a continuous scale less or more air through the appliance

A control unit with a microprocessor regulates and monitors the safe operation of the appliance. Using the display and the control buttons, the setting values can be adjusted and the current measurement values, filter messages and faults can be read.

4.2 Programme choice

The air flow can be automatically controlled using an internal temperature sensor and the selected programme. The air flow can be influenced using an extra 4–position switch.

The programme choices are:

- The constant programme, see "Constant programme" on page 14
- The fixed programme, see "Fixed programme" on page 16
- The HRU programme on page 17

The appliance is delivered from the factory set on the **constant programme**.

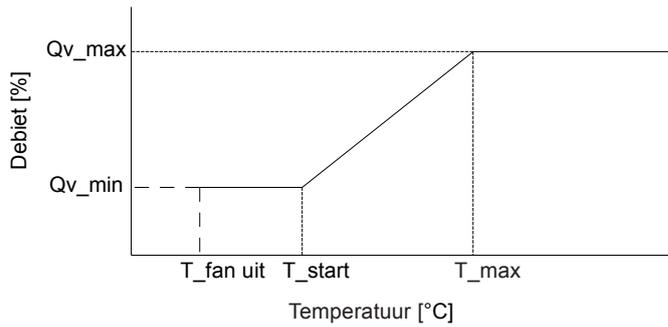
Use parameter **9** in the Setup menu on page 31 to activate the desired programme. See the Parameter list on page 52 for the other parameters to be set.

4.2.1 Constant programme

In the constant programme, the system ventilator operates as follows

- at a minimum air flow with a discharge temperature below 30°C (T_start). The minimum air flow and T_start can be set with parameters **2** and **5**.
- at a variable air flow with a discharge temperature above 30°C (T_start), varying between a set minimum and set maximum air flow. The maximum air flow is reached with a maximum discharge temperature (T_max) that is to be set. The discharge temperature and the maximum air flow can be set with parameters **1** and **3**.

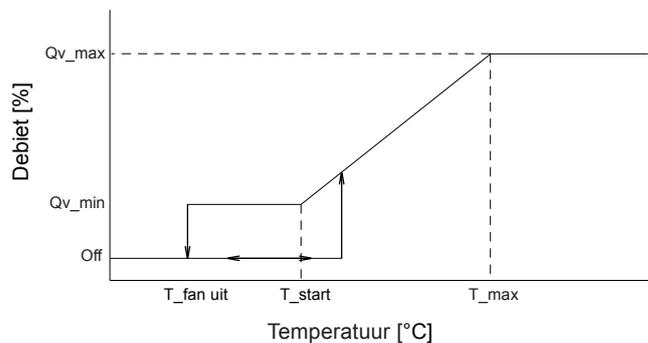
When heating is required, the system ventilator is controlled and the switch outputs for frost protection and cooling are deactivated.



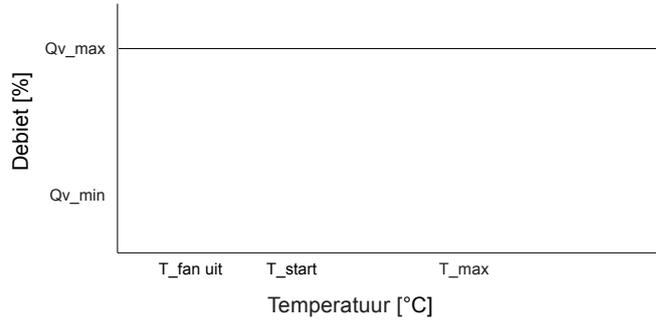
Constant programme control

In the constant programme, the control of the system ventilator can be influenced by a 4-position switch.

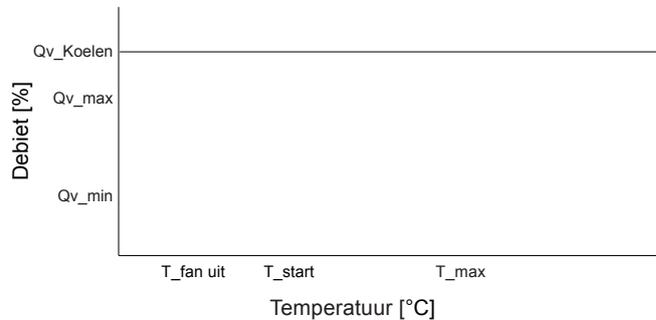
- *Position 1* - at temperatures below 30°C, the system ventilator always continues operating at the set minimum air volume. At temperatures above 30°C, the air flow varies between the set minimum and the set maximum air flow depending on the measured discharge temperature.
- *Position 2* - the system ventilator is switched off if the discharge temperature falls below a set switching temperature. If the temperature of the heat exchanger increases above this adjustable value, the system ventilator is activated again. At temperatures above 30°C, the set minimum and the set maximum air flow varies depending on the measured discharge temperature. The temperature for switching on and the temperature for switching off, as well as the hysteresis of the switching temperatures for the ventilator can be set with parameters **6**, **7** and **8**.



- **Position 3** - the system ventilator continues to operate at the set maximum air flow.



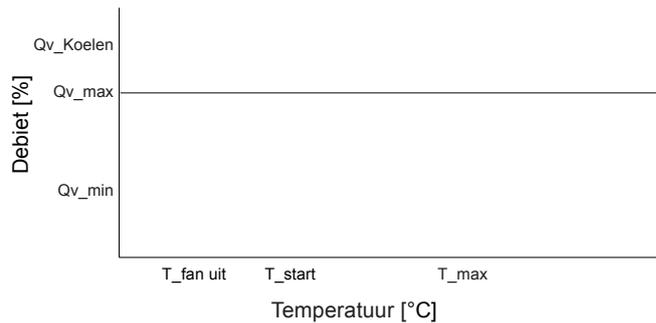
- **Position 4** - the system ventilator continues to operate at the set air flow for cooling. The switch output for cooling is closed. This position only works if the frost protection, see "Frost protection" on page 20 is not active. The air flow for the cooling can be set with parameter 4.



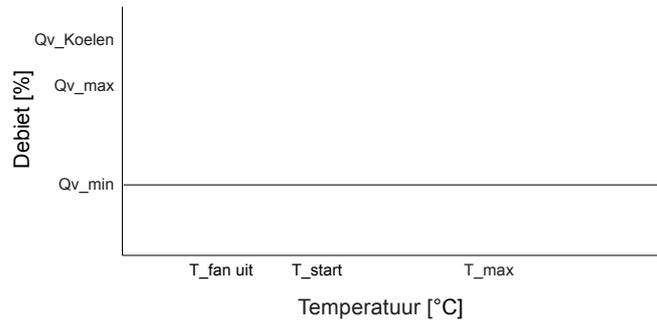
4.2.2 Fixed programme

In the fixed programme, the system ventilator can be set to 3 fixed air flow settings using the 4-position switch:

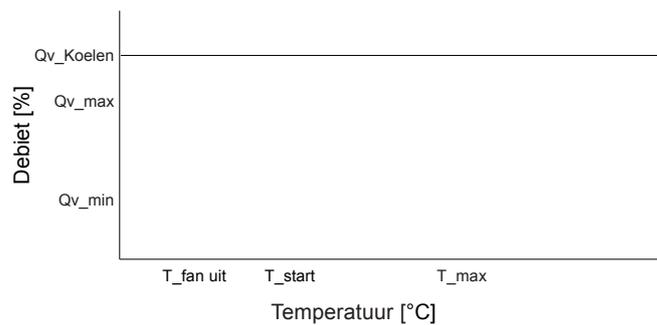
- **Position 1** - the system ventilator operates constantly at the set maximum air flow. This can be set with parameter 3.



- *Position 2* - the system ventilator operates constantly at the set minimum air flow. This can be set with parameter **2**.



- *Position 3 and position* - the system ventilator operates constantly at the set air flow for cooling. This can be set with parameter **4**.



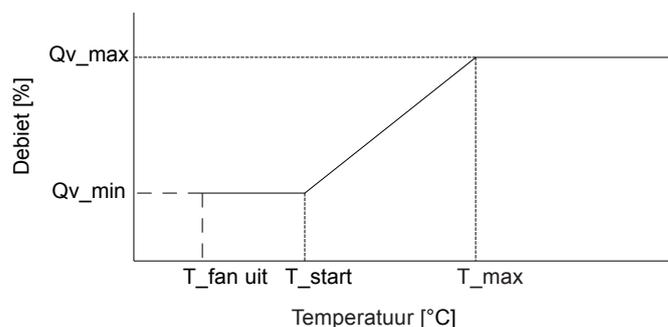
A cooling demand through a closed switch input 'cooling' has priority over any position of the 4-position switch.

4.2.3 HRU programme

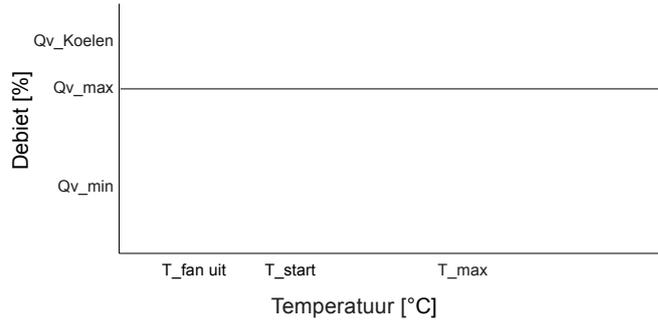
If the Air Comfort is used in combination with a heat recovery unit, the control of the system ventilator can be coupled to the heat recovery unit with this HRU programme.

The 4-position switch of the heat recovery unit can therefore be used to determine the air flow of the system ventilator in the Air Comfort.

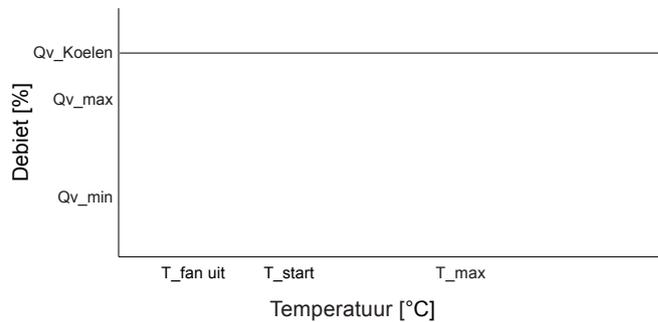
- *Position 1* - the air flow varies between the set minimum and the set maximum air flow depending on the measured discharge temperature. The maximum discharge temperature, the minimum and maximum air flow as well as the start temperature can be set with parameters **1**, **2**, **3** and **5**.



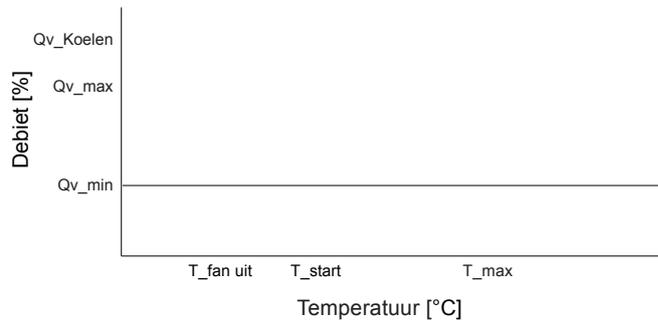
- *Position 2* - the system ventilator operates constantly at the set maximum air flow. This can be set with parameter **3**.



- *Position 3* - the system ventilator operates constantly at the set air flow for cooling. This can be set with parameter **4**.



- *Position* - the system ventilator operates constantly at the set minimum air flow. This can be set with parameter **2**.



A cooling demand through a closed switch input 'cooling' has priority over the position of the 4-position switch of the heat recovery unit.

The CO₂ sensors that are connected to the heat recovery unit have no influence on the control of the Air Comfort.

4.3 CO₂-control

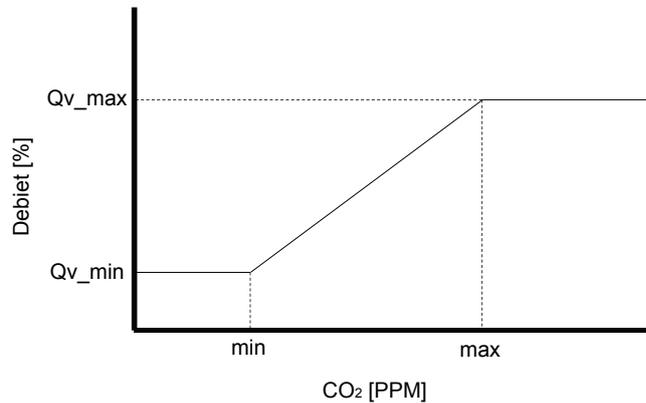
A maximum of 4 CO₂ sensors can be connected to the Air Comfort. These CO₂ sensors help to maintain the air quality of the separate rooms to which the Air Comfort is connected.

The CO₂ sensors have a minimum and maximum setting value. If the CO₂ concentration in a room gets above the minimum setting value, the air flow of the system ventilator of the Air Comfort increases. The air flow varies

depending on the measured CO₂ concentration(s). The air flow to be supplied is based on the room (CO₂ sensor) with the highest CO₂ concentration.

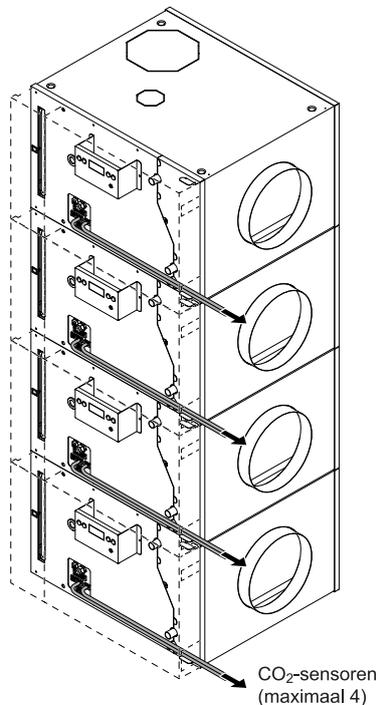


The CO₂ control only works if the 4-position switch is on position 1 or if no 4-position switch is connected.



CO₂ control

When heating is required from the Air Comfort appliance with CO₂ sensors the air flow is determined by the air discharge temperature or the CO₂ sensors. The one with the highest demand determines the regulation of the air flow.



Air Comfort appliances with CO₂ sensors

4.4 Frost protection

The frost protection ensures that the heat exchanger does not freeze in the event of frost.

The frost protection is controlled by the discharge temperature sensor:

- When the temperature is lower than a set temperature limit 1, any heating demand is blocked by cutting the 'cooling' switch output. The frost protection and the present external heat source is activated. The system ventilator is controlled on the basis of the measured air discharge temperature and, if applicable, the position of the 4-position switch. Use parameter **10** in the setup menu, see "Setup menu" on page 31 to set the switching temperature.
- When the air discharge temperature with a set hysteresis has risen above 1, the blocking of the cooling demand is lifted again. The frost protection is deactivated. Use parameter **12** in the setup menu, see "Setup menu" on page 31 to set the hysteresis.

If the discharge temperature, despite the frost protection, decreases further than the switching temperature limit 1 to a set switching temperature limit 2, the system ventilator is also switched off.

Use parameter **11** in the Setup menu on page 31 to set switching temperature limit 2.

The blocking of the system ventilator is lifted in the following way:

- If the air discharge temperature increases by 5 °C compared with the switching temperature limit 2, the system ventilator is activated for a fixed period of time (anti-pendulum time). The system ventilator continues to run on the basis of the position of the 4-position switch as long as the set time has not yet been exceeded.
- If the water temperature in the heat exchanger rises above a set switching temperature (parameter 6), the system ventilator is activated. The system ventilator continues to run on the basis of the position of the 4-position switch.
- If **[R]** on the control panel is pressed, the system ventilator is activated for a fixed period of time (anti-pendulum time). The system ventilator continues to run on the basis of the position of the 4-position switch as long as the time has not been exceeded.

5.1 Installation general

The appliance is delivered ready to be plugged in. When placing the appliance, the water connections and the system air ducts have to be installed on the discharge side. Afterwards, the appliance can be connected to the electricity network.

The installation of the Air Comfort must meet the following regulations:

- NEN 3028: Safety regulations for central heating installations
- NEN 1087: Regulations for the ventilation of homes and residential buildings
- NEN 1010: Safety regulations for low-voltage installations.
- NEN 3287: Regulations for connecting indoor plumbing in homes and residential buildings.
- ISO 61: Quality requirements of ventilation systems in homes.
- Relevant articles in accordance with the Dutch Building Decree.
- Any additional regulations of the local utility companies.
- Installation of the Air Comfort.

Install the Air Comfort:

1. Place the appliance, see "Placing the appliance" on page 21.
2. Install the water connections, see "Water connections" on page 24.
3. Install the air ducts, see "Connecting ducts" on page 26.
4. Connect the electrical connections, see "Electrical connections" on page 27.

5.2 Placing the appliance

When placing the Air Comfort take into account the following environmental factors:

- The room where the appliance is installed must be frost-free.
- The room where the appliance is set up must provide enough space for service. There must be at least 1 m of free space at the front and a free standing height of 1.8 m.
- If applicable, there must be a good condensation discharge with water trap and slope for condensed water in the room where the appliance is set up, or if not this must be possible to set up.
- When using free air intake, the room in which the appliance is set up has to be in open connection with the rest of the building.

5.2.1 Placing the appliance

Place the Air Comfort loosely on the floor:

- Ensure that the sides and top of the appliance have at least 120 mm of free space from the walls and ceiling.
- Place the appliance on an assembly table if the floor is wet, uneven or if cooling is used.
- Place the appliance as closely as possible to the water supply and discharge.
- Place the appliance as centrally as possible in relation to the air ducts.
- Ensure that the appliance is set up so that it is even and does not vibrate.

5.2.2 Installing Renovent Excellent on Air Comfort

The Air Comfort appliance can be combined with two different models of heat recovery units:

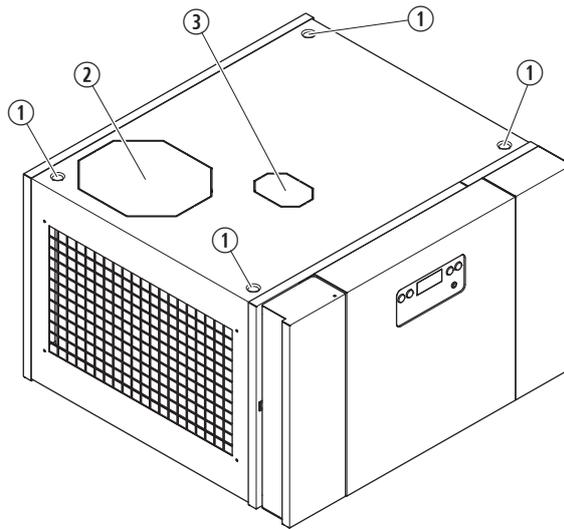
- Renovent Excellent 4/0:
 - The right-hand version of the Air Comfort with a left-hand or right-hand version of the Renovent Excellent 4/0.
 - The left-hand version of the Air Comfort with a left-hand or right-hand version of the Renovent Excellent 4/0.
- Renovent Excellent 3/1:
 - The right-hand version of the Air Comfort with a right-hand version of the Renovent Excellent 3/1.
 - The left-hand version of the Air Comfort with a left-hand version of the Renovent Excellent 3/1.

The Renovent Excellent can be installed on top of the Air Comfort appliance.



Always use the siphon set with article number 217052 if a Renovent Excellent heat recovery unit is installed on top of the Air Comfort appliance.

See section Condensation discharge when using Renovent Excellent on page 26 for connecting the condensation discharge.



Top of Air Comfort

1. Indentation in upper plate
2. Break-off section
3. Break-off section

Place the Renovent Excellent 4/0 on top of the Air Comfort:

1. Remove the break-off section (3) from the top plate of the Air Comfort.
2. Remove the insulation that is released.
3. Stick the 4 black buffers from the siphon set onto the indentation (1) of the top plate of the Air Comfort.
4. Stick the sealing tape of the siphon set over the edge of the break-off opening(3).
5. Remove the 4 rubber buffers below the Renovent Excellent 4/0.
6. Place the Renovent Excellent on the Air Comfort in such a way that the protective covers are located at the front in 1 section.

Place the Renovent Excellent 3/1 on top of the Air Comfort:

1. Remove the break-off section (2) and the break-off section (3) from the top plate of the Air Comfort.
2. Remove the insulation that is released.
3. Stick the 4 black buffers from the siphon set onto the indentation (1) of the top plate of the Air Comfort.
4. Stick the sealing tape of the siphon set over the edge of the break-off openings (2, 3).
5. Place the Renovent Excellent on the Air Comfort in such a way that the protective covers are located at the front in 1 section.

5.3 Water connections

5.3.1 Heat exchanger

Connect the heat exchanger with 22 mm fittings:

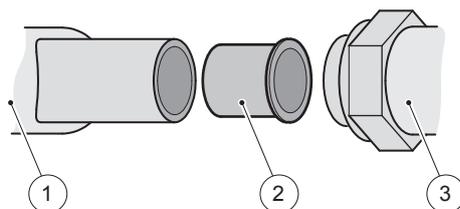
1. Loosen the two screws between the protective cover and the filter door.
2. Slide the protective cover to the side and remove it from the appliance.
3. Advice: install a shut-off valve with coupling in the supply and discharge pipes. Ensure that these shut-off valves are installed directly on the outside of the appliance.

Use a clamp connection to connect the supply and discharge pipes to the heat exchanger.

1. If the Air Comfort is installed also on the cooling side, all water connections must have damp-proof insulation.



When applying a clamp connection always use a support bush \varnothing 22 mm, see picture.



Clamp connection water connection

1. Air Comfort appliance
2. Support bush
3. Water connection (by fitter)

5.3.2 Condensation discharge

The condensation discharge is used for cooling and when a heat recovery unit is installed on the Air Comfort.

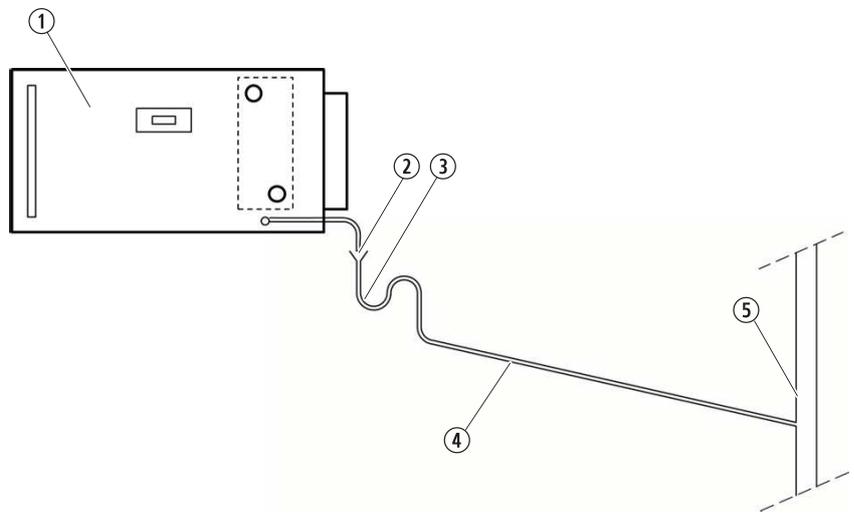
5.3.2.1 Condensation discharge Air Comfort for cooling

Connect the condensation discharge:

1. Loosen the two screws between the protective cover and the filter door.
2. Slide the protective cover to the side and remove it from the appliance.
3. Connect the condensation discharge pipe with 15 mm fittings:



Use an open connection for the condensation discharge.



Condensation discharge for cooling

1. Appliance
2. Funnel
3. Anti-smell valve
4. Connecting pipe
5. Standpipe

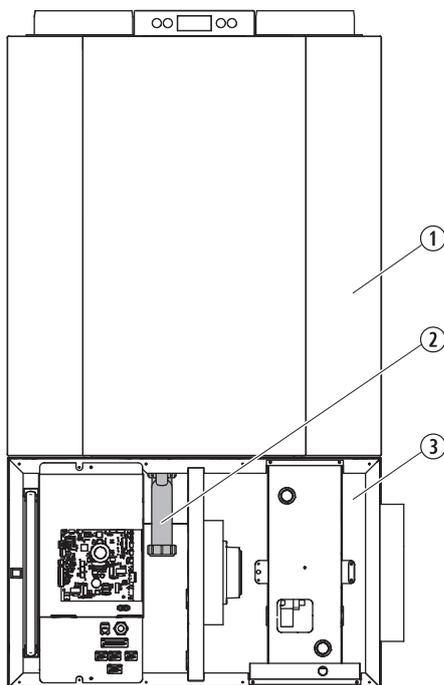
5.3.2.2 Condensation discharge when using Renovent Excellent



Use the siphon set with article number 217052 for connecting the Renovent Excellent heat recovery unit if this is installed onto a Air Comfort appliance.

Connect the condensation discharge of the heat recovery unit.

1. Remove the protective cover and front panel of the Air Comfort and of the Renovent Excellent.
2. Connect the siphon (2) of the siphon set to the Renovent Excellent (1), see also the installation instructions of the Renovent Excellent heat recovery unit.



3. Feed the condensation discharge tube through the tulle underneath the control panel.
4. Place the front covers back on the Air Comfort.

5.4 Connecting ducts

Connect the warm air duct onto the coupling ring of the air outlet:

1. If necessary, install a regulating valve in the air outlet.
2. Insulate the warm air duct, the grating and the possible outside air duct.
3. Apply a moisture repellent layer over the insulation material in order to prevent condensation forming.

If the coupling ring of the air outlet is not on the correct side of the appliance before installation, use can be made of an air distributing box (discharge module).

1. Make the required opening in the air distributing box.
2. Connect the warm air duct on to the desired output of the air distributing box.



Ensure that the ducts do not form a straight connection between 2 rooms, so that cross-talk interference does not arise.

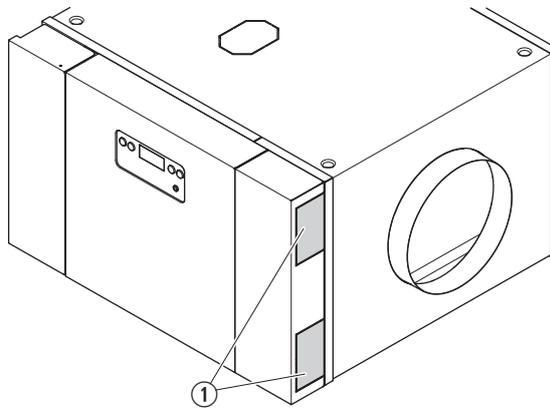
5.5 Electrical connections

The Air Comfort must be connected to the electricity network with the mains plug.

See section Electrical connection accessories, see "Electrical connections accessories" on page 45 for connecting the extra options.

5.5.1 Connecting the mains plug

The cable of the 230 V mains plug is attached behind the protective cover. In the protective cover there are openings (1) through which you can feed the cable.



Feed-through openings



Ensure that the power cable is always free from the heat exchanger.

The electrical installation must meet the requirements of your electricity firm and the NEN 1010 safety regulations for low-voltage installations.



When carrying out work on the appliance, always disconnect the power by pulling the mains plug from the power socket. The ventilator and circuit board work under high voltage.

Connect the mains plug:

1. Feed the cable of the plug through the opening.
2. Connect the mains plug to an earthed wall socket.

5.5.2 Connecting the cooling

Connect the cooling:

1. Loosen the two screws between the protective cover and the filter door.
2. Slide the protective cover to the side and remove it from the appliance.
3. Connect the cooling relay to ports 7 and 8 of the 9-pin connector, see (1) in section Connector connections, see "Connecting external connectors Air Comfort" on page 45.
4. Connect the frost protection relay to ports 5 and 6 of the 9-pin connector.
5. Connect the switch contact to ports 1 and 2 of the 9-pin connector.

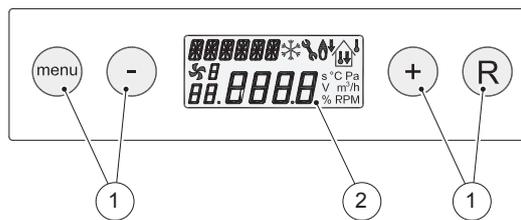
5.5.3 Connecting the Renovent Excellent

Connect the 2-pin green eBus connector of the Renovent Excellent heat recovery unit to the 2-pin green eBus connector of the Air Comfort appliance.

6.1 General explanation of control panel

The control panel allows the settings of the appliance to be viewed and changed. The control panel has a display and 4 control buttons.

- The display shows the operating mode, see "Operating mode" on page 30 of the appliance if no buttons are being used and there is no deviating situation.
- With the control buttons you can navigate through the menus of the control. If one of the buttons is pressed, then the display lights up for 30 seconds.



Control panel

1. Control buttons
2. Display

The control of the appliance consists of 3 menus:

- Setup menu on page 31
- Read out menu on page 32
- Service menu on page 34

In the event of locking fault, see "Fault" on page 38 only the service menu can be activated.

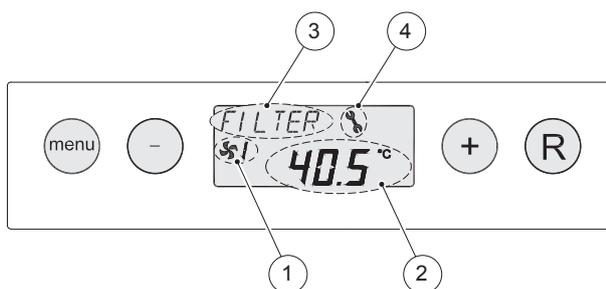
First press **[Menu]** and then **[+]** or **[-]** to make a menu choice. Press **[R]** to return to the display of the operating mode. Press **[R]** for shorter than 5 seconds in order to activate the background lighting of the display without anything changing in the menu.

If the buttons are not pressed for 5 minutes, the display returns automatically to the operating mode.

6.2 Operating mode

The operating mode is shown on the display by means of 4 different values:

- The status of the system ventilator, see "System ventilator status" on page 30
- The air discharge temperature
- A notification message, see "Notification message for operating mode" on page 30
- If applicable, a fault symbol, see "Fault" on page 38



Operating mode display

1. System ventilator status
2. Air discharge temperature display
3. Notification message
4. Fault symbol

6.2.1 System ventilator status

The status of the system ventilator is shown on the left-hand side of the display with a ventilator symbol and a number, see Programme choice on page 14.

The ventilator symbol is only shown whilst the system ventilator is in operation.

6.2.2 Notification message for operating mode

If applicable, a notification message is shown top left on the display.

The **FILTER** notification also takes priority over all other messages.

The following messages can be shown on the display:

Notification message	Description
FILTER	The filter must be cleaned or replaced, see Clean filter , see "Cleaning filter" on page 42.
PR1	The Fixed programme on page 16 has been set.
PR2	The HRU programme on page 17 has been set.

6.3 Setup menu

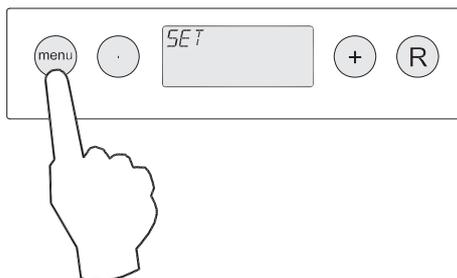
Use the setup menu to change the settings of the appliance. See the Parameter list on page 52 for an overview of the possible settings.



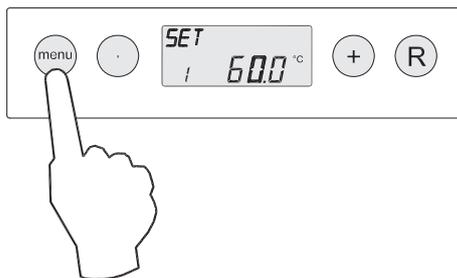
Incorrect settings can disrupt the operation of the appliance. Contact Brink when the settings, which are not described in these installation instructions, have to be changed.

Changing the setting values:

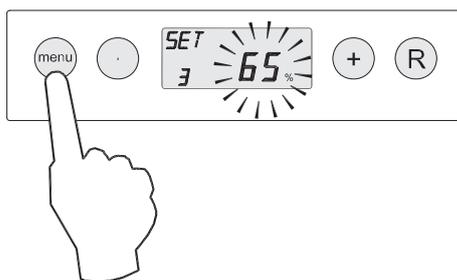
1. Press **[Menu]**



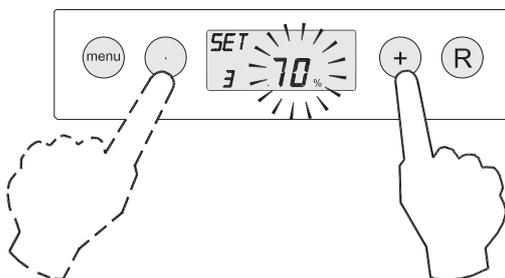
2. Press **[Menu]** to activate the **SET** setup menu.



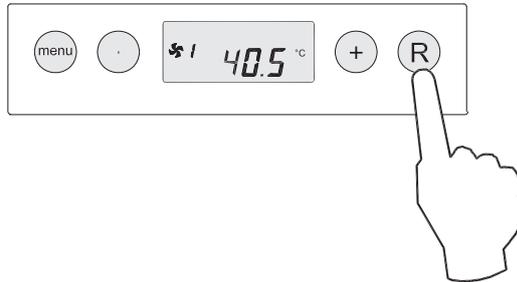
3. Press **[+]** or **[-]** to navigate to the setting value that is to be changed.
4. Press **[Menu]** to select the setting value.



5. Change the setting value:
 - a) Press **[+]** or **[-]** until the desired value is shown on the display.
 - b) Press **[Menu]** to save the value or press **[R]** to cancel the change.



6. If desired, repeat steps 4 to 6 to change more setting values.
7. Press **[R]** to return to the menu choice.
8. Press **[R]** again to return to the operating mode.



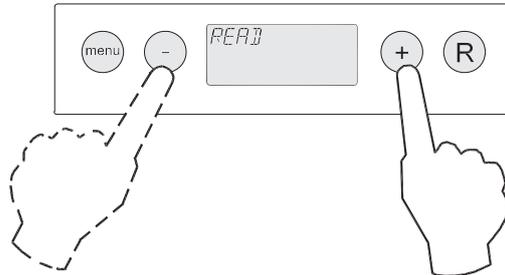
6.4 Read out menu

Use the read out menu to retrieve current measurement values

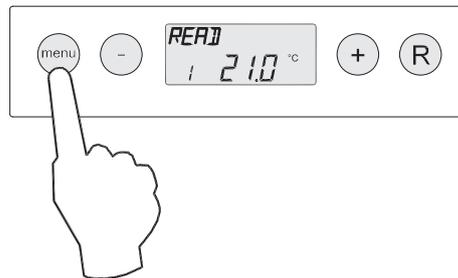
Measur ement- value	Description	Unit
1	Current discharge temperature	[°C]
2	Current water temperature in the heat exchanger	[°C]
3	Current speed of the system ventilator	%
4	Number of revs of system ventilator	RPM
5	Status of frost control: - ON : frost control active - OFF : frost control not active	-
6	Readout value CO ₂ sensor A	PPM
7	Readout value CO ₂ sensor B	PPM
8	Readout value CO ₂ sensor C	PPM
9	Readout value CO ₂ sensor D	PPM

Reading out measurement values:

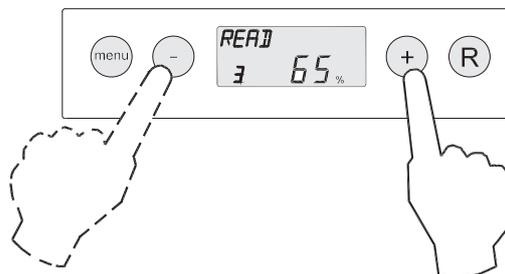
1. Press **[Menu]**
2. Press **[+]** or **[-]** to navigate to the readout menu **READ**.



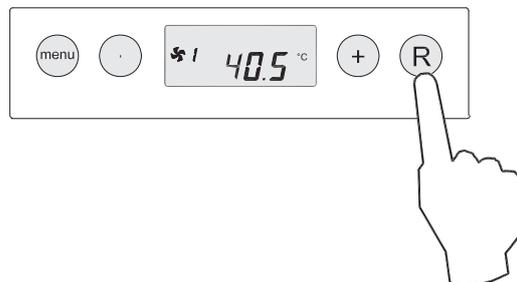
3. Press **[Menu]** to activate the readout menu.



4. Press **[+]** or **[-]** to navigate through the measurement values in the readout menu.



5. Press **[R]** to return to the menu choice.
6. Press **[R]** again to return to the operating mode.

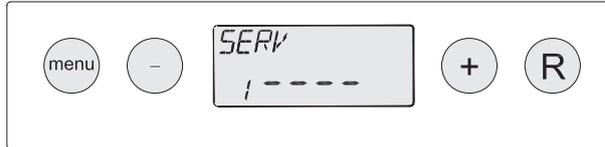


6.5 Service menu

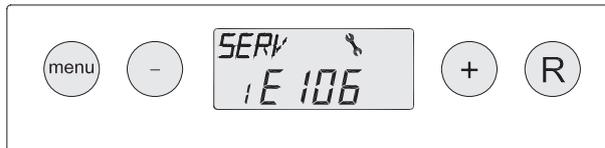
Use the service menu to read the last 10 error messages of the appliance.

3 different displays are possible.

- If there is no error message:



- An error message with the fault symbol. This is a current error message:

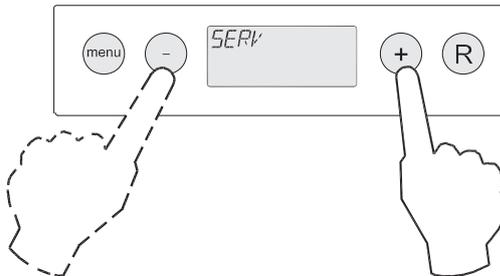


- An error message without fault symbol. This is a resolved error message:

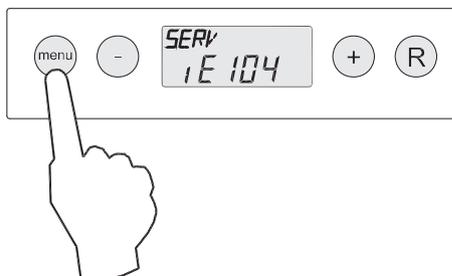


Reading out error messages:

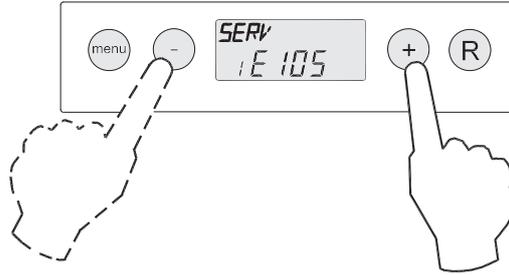
1. Press **[Menu]**
2. Press **[+]** or **[-]** to navigate to the service menu **SERV**.



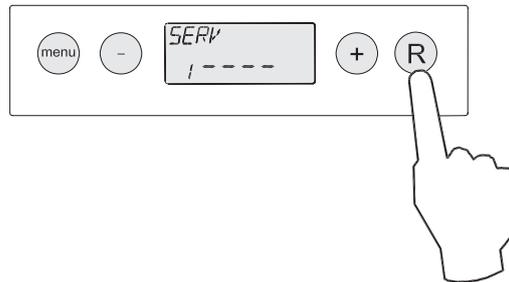
3. Press **[Menu]** to activate the service menu.



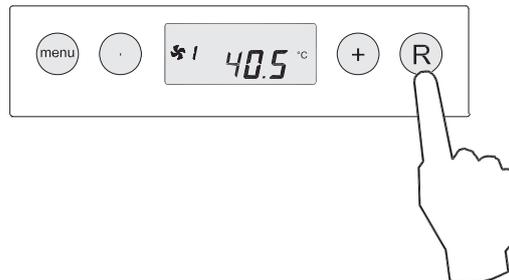
4. Press **[+]** or **[-]** to navigate through the error messages in the service menu.



5. If desired, press **[R]** for 5 seconds to delete all error messages in the service menu (not possible with current message).



6. Press **[R]** to return to the menu choice.
7. Press **[R]** again to return to the operating mode.



7.1 Switching appliance on and off

7.1.1 Switching on appliance

Connect the 230 V mains plug in order to switch on the appliance, see Connecting the mains plug on page 27.

The background lighting of the display goes on for 60 seconds and the display shows the following information one after the other:

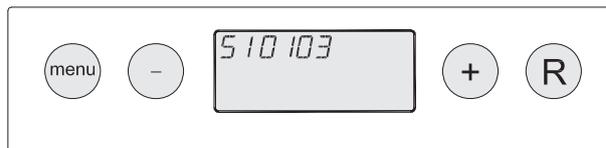
1. All symbols on the display are shown for 2 seconds.



2. The article number is displayed for 2 seconds.



3. The software code is displayed for 4 seconds.



The appliance afterwards goes into operating mode and starts heating the surrounding air to the set discharge temperature.

7.1.2 Switching off appliance

Pull the 230 V mains plug from the wall socket in order to switch off the appliance

7.2 Setting air flow

The performance and energy consumption of the appliance depends on the pressure loss in the duct system and the resistance of the filter. Change the setting values for the air flow in order to improve the performance of the appliance, see Setup menu on page 31.

7.3 Other settings for fitter

Use the Setup menu on page 31 to change the setting values of the appliance. See the Parameter list on page 52 for an overview of the possible settings.

7.3.1 Connecting several Air Comfort appliances

A maximum of 4 Air Comfort appliances can be connected to one another. Use parameter **26** to set a unique identification number for each appliance, see the Parameter list on page 52.



If the Air Comfort appliances are applied in combination with a heat recovery unit, this also must have a unique identification number. This can be set with parameter **27**.

7.3.2 Connecting Air Comfort appliance with Renovent Excellent appliance

If a Renovent Excellent heat recovery unit is connected to the Air Comfort appliance or a series of a maximum of 4 Air Comfort appliances, then the Renovent Excellent type must be set with parameter **27**, see the Parameter list on page 52.



This parameter must be set on every Air Comfort appliance.

7.4 Factory settings

Press **[+]** and **[-]** for 10 seconds at the same time in order to return all settings to the factory settings.



Only the filter setting is not returned to the factory settings.

After returning to the factory settings, the display shows all symbols for 3 seconds. After that, the appliance returns automatically to the operating mode.

8.1 Fault analysis

If the appliance experiences a fault, this is indicated on the display with the fault symbol.

The appliance distinguishes between 2 types of faults:

- Non-locking fault: The appliance continues to function, possibly to a limited degree.

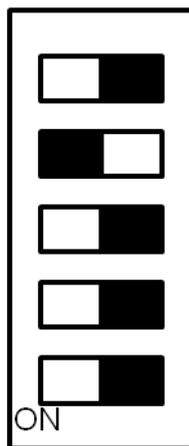


- Locking fault: The system ventilator of the appliance is deactivated. It is not yet possible to activate the setup menu and readout menu. The appliance remains locked until the fault is resolved. Afterwards, the appliance will automatically reset and return to the operating mode.



In the event of a locking fault, a fault code will be displayed in addition to the fault symbol, see Display codes on page 39.

If when switching on the appliance, the message **E999** is shown on the display, the installed circuit board is not suitable for this appliance or the dipswitches on the circuit board have been set incorrectly. Check the dipswitches, see diagram Replace the circuit board if the message **E999** does not disappear and the dipswitches are in the correct position.



Dipswitches Air Comfort

8.2 Display codes

Fault code	Cause	Appliance action	Fitter action
E101	Air outlet temperature sensor faulty	The ventilator is switched off	<ol style="list-style-type: none"> 1. Disconnect power from appliance, see "Switching off appliance" on page 36. 2. Replace the temperature sensor 3. Switch the appliance on again, see "Switching on appliance" on page 36. <p>The fault is automatically reset.</p>
E102	Water temperature sensor faulty	The ventilator is switched off	<ol style="list-style-type: none"> 1. Disconnect power from appliance, see "Switching off appliance" on page 36. 2. Replace the temperature sensor 3. Switch the appliance on again, see "Switching on appliance" on page 36. <p>The fault is automatically reset.</p>
E104	System ventilator faulty	The appliance does nothing	<ol style="list-style-type: none"> 1. Disconnect power from appliance, see "Switching off appliance" on page 36. 2. Check the cables. 3. Replace the ventilator 4. Switch the appliance on again, see "Switching on appliance" on page 36. <p>The fault is automatically reset.</p>
E105	Fault relay output 9–pin connector position 5&6 or 7&8. There is a relay with a too high a capacity connected to one of the outputs or a short circuit in one of the outputs (max. 60 mA, 24 V DC)	The ventilator is running on minimum air flow.	<ol style="list-style-type: none"> 1. Check the wiring. 2. Check the connection value of the connected relay.

Fault code	Cause	Appliance action	Fitter action
E106	Unknown switch position of optional position switch	The ventilator is running on minimum air flow.	<ol style="list-style-type: none"> 1. Disconnect power from appliance, see "Switching off appliance" on page 36. 2. Check the connection of the position switch 3. Check that the modular connector has been installed correctly. 4. Switch the appliance on again, see "Switching on appliance" on page 36. <p>The fault is automatically reset.</p>
E107	External fault on input 9-pin connector position 3&4	The connected appliance has a malfunction.	Check all appliances that are connected to the Air Comfort and resolve the fault.
E109	CO ₂ sensor faulty or wired incorrectly.	<p>The red LED on the CO₂ sensor flashes every half a second.</p> <p>The appliance continues to function.</p>	<ol style="list-style-type: none"> 1. Disconnect power from appliance, see "Switching off appliance" on page 36. 2. Check the wiring and adjust this if necessary. 3. If applicable, replace the CO₂ sensor. 4. Ensure that the dipswitch has been set correctly., see "Connecting CO₂ sensor" on page 47 5. Switch the appliance on again, see "Switching on appliance" on page 36. <p>The fault is automatically reset.</p>

Fault code	Cause	Appliance action	Fitter action
E152	Flash memory faulty	Fault in the control of the circuit board	<ol style="list-style-type: none"> 1. Disconnect power from appliance, see "Switching off appliance" on page 36. 2. Replace the circuit board. 3. Switch the appliance on again, see "Switching on appliance" on page 36. <p>The fault is automatically reset.</p>
E999	Dipswitches on circuit board not set correctly.	The appliance does not do anything. Even the red fault LED on the position switch is not activated	<ol style="list-style-type: none"> 1. Disconnect power from appliance, see "Switching off appliance" on page 36. 2. Set the dipswitches in the correct position, see "Fault analysis" on page 38. 3. Switch the appliance on again, see "Switching on appliance" on page 36. <p>The fault is automatically reset.</p>

9.1 Cleaning filter

Clean the filter if:

- The notification text **FILTER** is shown on the display.
- If applicable, the red indication LED by the position switch lights up with filter indication.



Never use the appliance without filter.

The filter must be replaced each year.

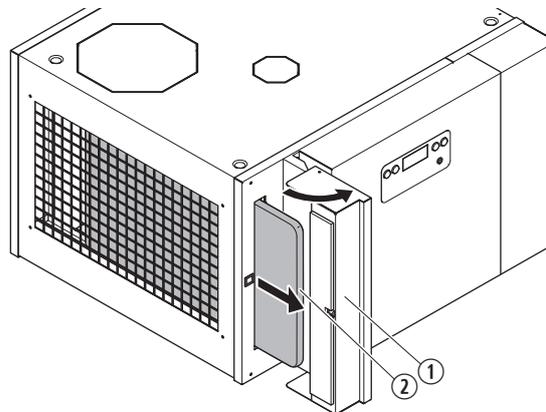
Use the Service menu on page 34 to reset the filter notification. The control of the appliance begins again to count down until the next cleaning is necessary. A filter reset can be carried out at any time.



If the filter is not cleaned or replaced on time, the operation of the appliance is impaired.

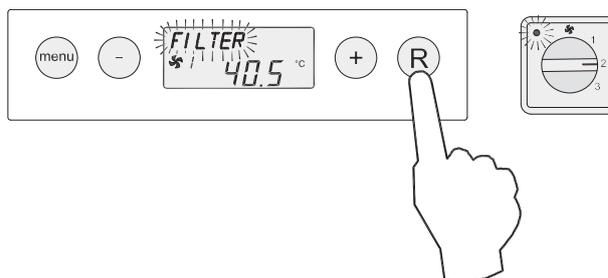
Clean or replace the filter:

1. Disconnect power from appliance, see "Switching off appliance" on page 36.
2. Open the filter door.
3. Remove the filter.



4. Clean the filter with a vacuum cleaner.
5. Put the filter back into the appliance.
6. Close the filter door.
7. Press **[R]** on the control panel for 5 seconds to remove the filter indication.

The notification message **FILTER** flashes briefly.



The **FILTER** notification of the display disappears, and, if applicable, the indication LED by the position switch goes out. The appliance is in operating mode.

9.2 Maintenance

Clean the heat exchanger and the ventilator once every 3 years.

1. Disconnect power from appliance, see "Switching off appliance" on page 36.
2. Loosen the two screws between the protective cover and the filter door.
3. Slide the protective cover to the side and remove it from the appliance.
4. Remove the front covers.
5. Disconnect the ventilator cables from the circuit board.
6. Remove the circuit board holder.
7. Remove the soundproofing blocks.
8. Remove the ventilator unit.



Ensure that the balance weights in the system ventilator have not moved.

9. Clean the vanes of the ventilator with a dry brush.
10. Carefully clean the heat exchanger with a vacuum cleaner.
11. Check the heat exchanger for any leaks.
12. Mount the ventilator unit.
13. Mount the soundproofing blocks.
14. Mount the circuit board holder.
15. Mount the ventilator cable onto the circuit board.
16. Mount the front covers and the protective cover.
17. Switch the appliance on, see "Switching on appliance" on page 36.
18. Press **[R]** on the control panel for 5 seconds to remove the filter indication.

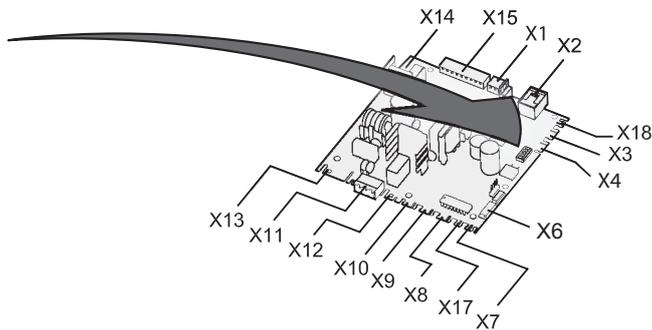
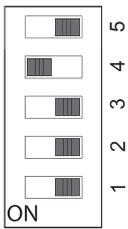
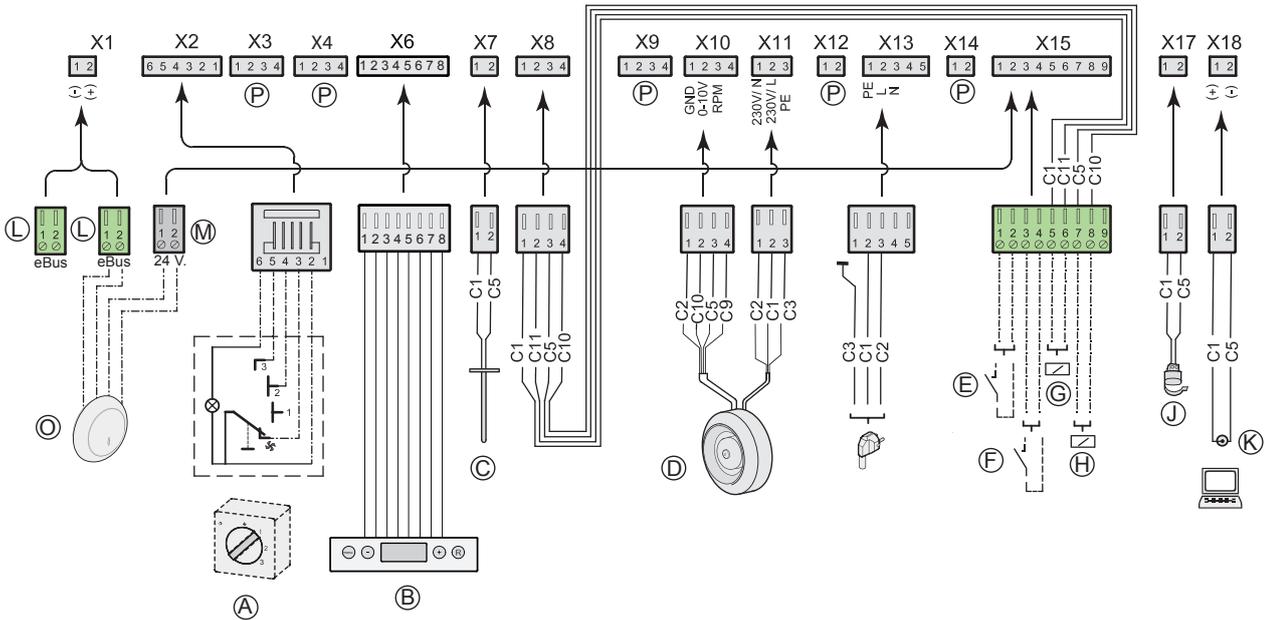
The notification message FILTER flashes briefly.

The appliance is in operating mode.



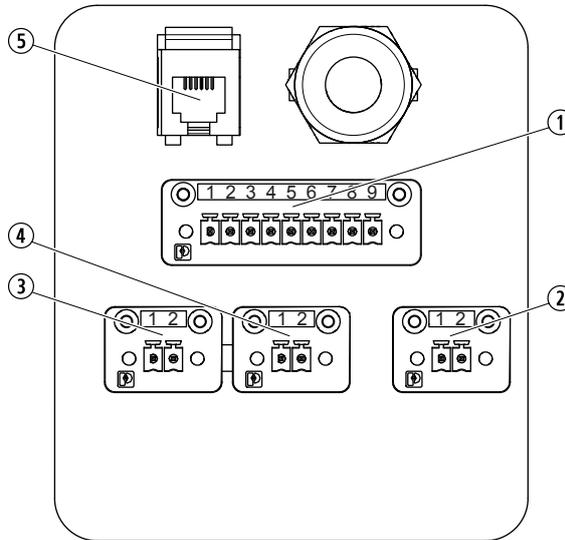
The standard maintenance period is 3 years. The required maintenance period depends on the circumstances.

10.1 Wiring diagram



- | | | |
|-------------------|-----------------------------------|---|
| C1 = brown | A = Position switch | H = Cooling relay (24 VDC, not installed) |
| C2 = blue | B = Control panel | J = Water temperature sensor |
| C3 = green/yellow | C = Discharge temperature sensor | K = Service connection |
| C5 = white | D = System ventilator | L = eBus connector (polarity sensitive) |
| C6 = wire no. 1 | E = Switch contact cooling | M = Power for CO ₂ sensor |
| C7 = wire no. 2 | F = Switch contact external fault | O = CO ₂ sensor (optional) |
| C10 = yellow | G = Frost protection relay | P = Not applicable |
| C11 = green | (24 VDC, max. 60 mA) | |

11.1 Connecting external connectors Air Comfort



Connector connections

1. **External contacts** - These contacts are used to connect external devices onto the appliance.
 - *Position 1 and 2* - This is a switch contact for the cooling. The cooling is activated if contact is made.
 - *Position 3 and 4* - This is a switch contact for an external fault. The system ventilator of the appliance is switched off in the event of a fault **E107**, see Display codes on page 39.
 - *Position 5 and 6* - This relay is activated by the frost protection, for example through introducing an external pump.
 - *Position 7 and 8* - This relay is activated by cooling, for example through connecting an interface for the cooling.
2. **24V power** - maximum 4.5 VA (black).
3. **eBus communication** - the connection is polarity sensitive (green).
4. **eBus communication** - the connection is polarity sensitive (green).
5. **Connection 4-position switch**.

11.2 Connecting position switch

If the application of a 4-position switch is chosen:

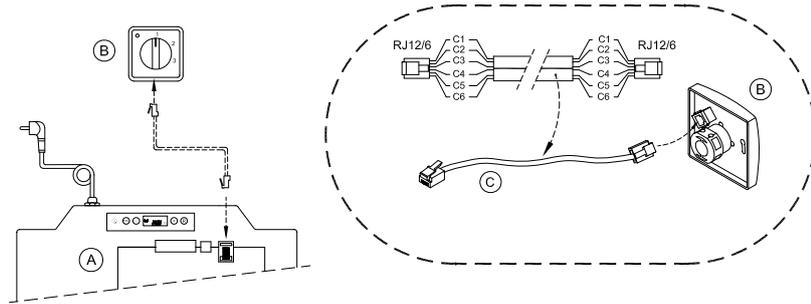
1. Loosen the two screws between the protective cover and the filter door.
2. Slide the protective cover to the side and remove it from the appliance.
3. Connect the position switch to the modular connector of the appliance, see Connecting external connectors, see "Connecting external connectors Air Comfort" on page 45.

11.2.1 Position switch with filter indication

A position switch with filter indication works mechanically. The red indication LED lights up if the filter of the appliance has to be cleaned or replaced, and flashes if there is a fault.



When connecting the position switch with filter indication, a 6-core modular cable is used. For this cable, the tab of both modular connectors should be mounted onto the marking on the cable.

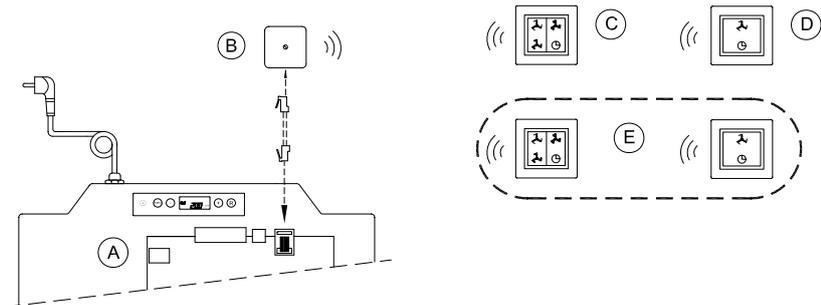


Connecting position switch with filter indication

- A. Air Comfort appliance
- B. 4-position switch with filter indication
- C. Modular cable, 6-core

11.2.2 Wireless position switch

A wireless position switch works with the help of Radio Frequency (RF) technology and makes a wireless connection with the Air Comfort. A wireless position switch can be easily added to existing systems.



Connecting wireless position switch

- A. Air Comfort appliance
- B. Wireless remote control receiver
- C. Transmitter with 4 positions
- D. Transmitter with 2 positions
- E. Optional extra transmitters that can be connected (Max. 6)

11.3 Connecting CO₂ sensor

11.3.1 CO₂ sensor Air Comfort

A maximum of 4 CO₂ sensors can be connected to a Air Comfort appliance, see section CO₂ control, see "CO₂-control" on page 18.



Each CO₂ sensor must be linked to the Air Comfort appliance with the dipswitch on the back of the CO₂ sensor.

Set the dipswitches on the CO₂ sensors according to the below table.

Dipswitches 1 to 4 are not available for CO₂ sensors.

	Number CO ₂ sensor	Dipswitch position				
		1	2	3	4	5
Air Comfort appliance 1	5	on	off	on	off	off
	6	off	on	on	off	off
	7	on	on	on	off	off
	8	off	off	off	on	off
Air Comfort appliance 2	9	on	off	off	on	off
	10	off	on	off	on	off
	11	on	on	off	on	off
	12	off	off	on	on	off
Air Comfort appliance 3	13	on	off	on	on	off
	14	off	on	on	on	off
	15	on	on	on	on	off
	16	off	off	off	off	on
Air Comfort appliance 4	17	on	off	off	off	on
	18	off	on	off	off	on
	19	on	on	off	off	on
	20	off	off	on	off	on

Connect the CO₂ sensors:

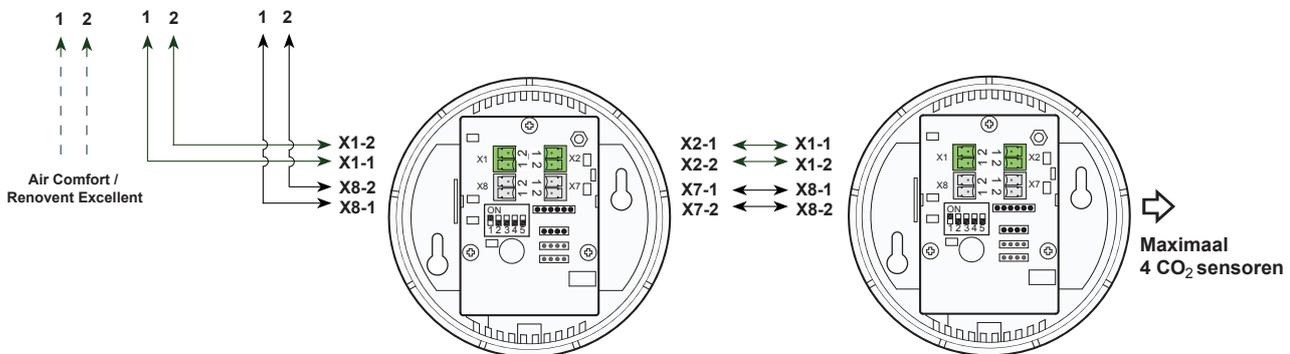
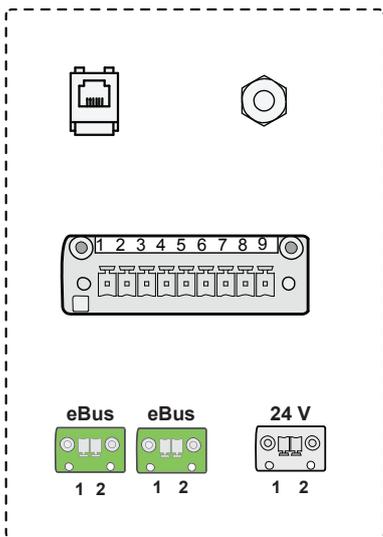
1. Connect the 2-pin black connector of the CO₂ sensor to the 2-pin black connector of the Air Comfort appliance.
2. Connect the 2-pin green connector of the CO₂ sensor to the 2-pin green connector of the Air Comfort appliance.



The 2-pin connectors are polarity sensitive. Ensure that the CO₂ sensor has been correctly connected.

See the Parameter list on page 52 for the necessary parameters for setting the CO₂ sensors:

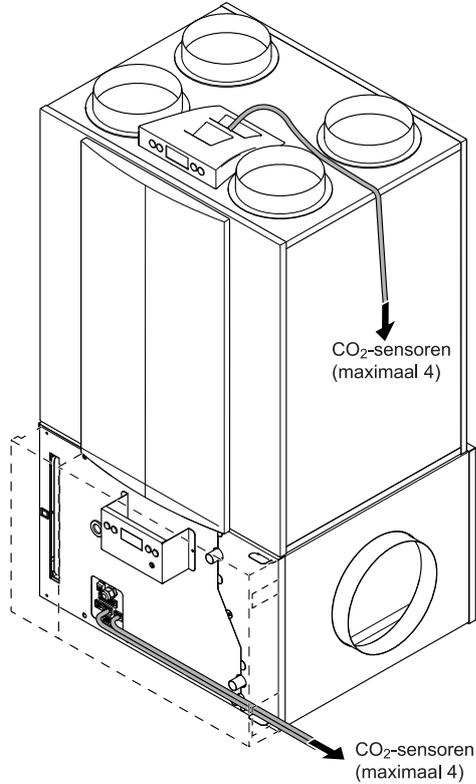
1. Use parameter **13** to activate the eBus communication.
2. Use parameter **14**, **16**, **18** or **20** to set the lower limit of the CO₂ sensor.
3. Use parameter **15**, **17**, **19** or **21** to set the upper limit of the CO₂ sensor.
4. Use parameter **22**, **23**, **24** or **25** to set the identification number (dipswitch number) of the CO₂ sensor.



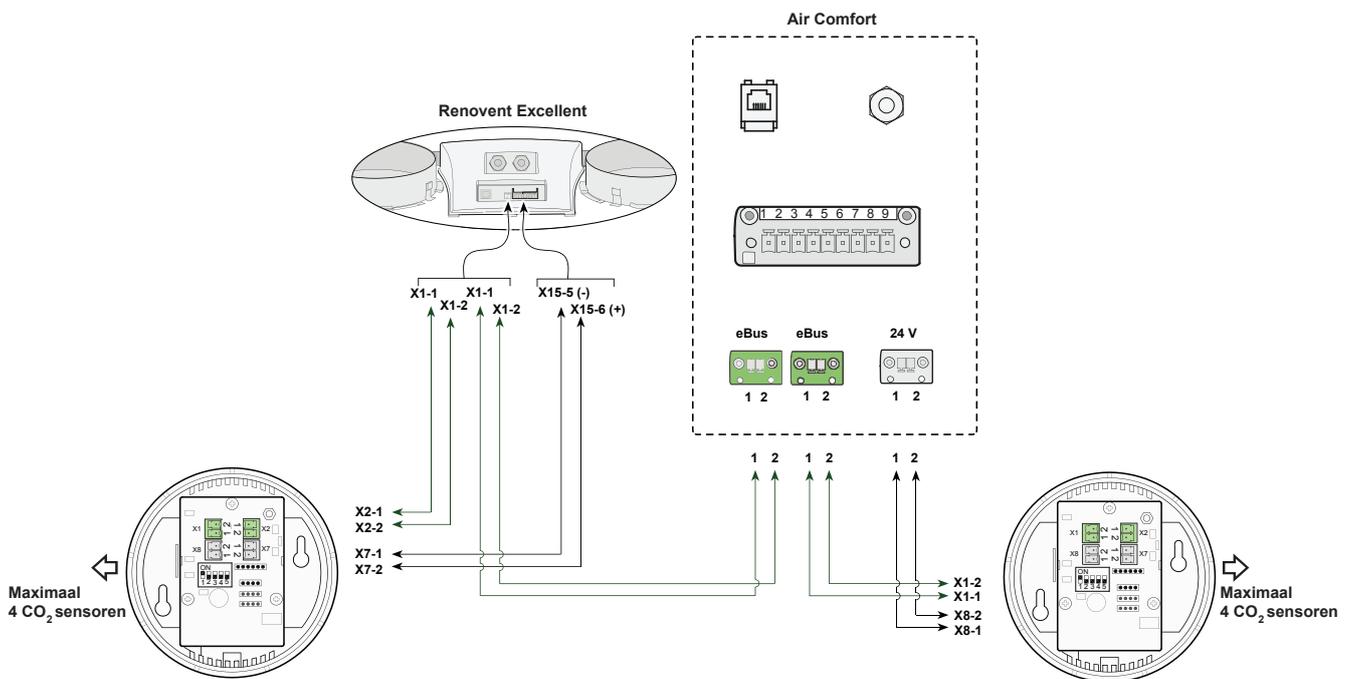
Connecting CO₂ sensor

11.3.2 Air Comfort and Renovent Excellent with CO₂ sensor

Connect a Air Comfort appliance and a Renovent Excellent heat recovery unit with CO₂ sensors according to the following diagrams.

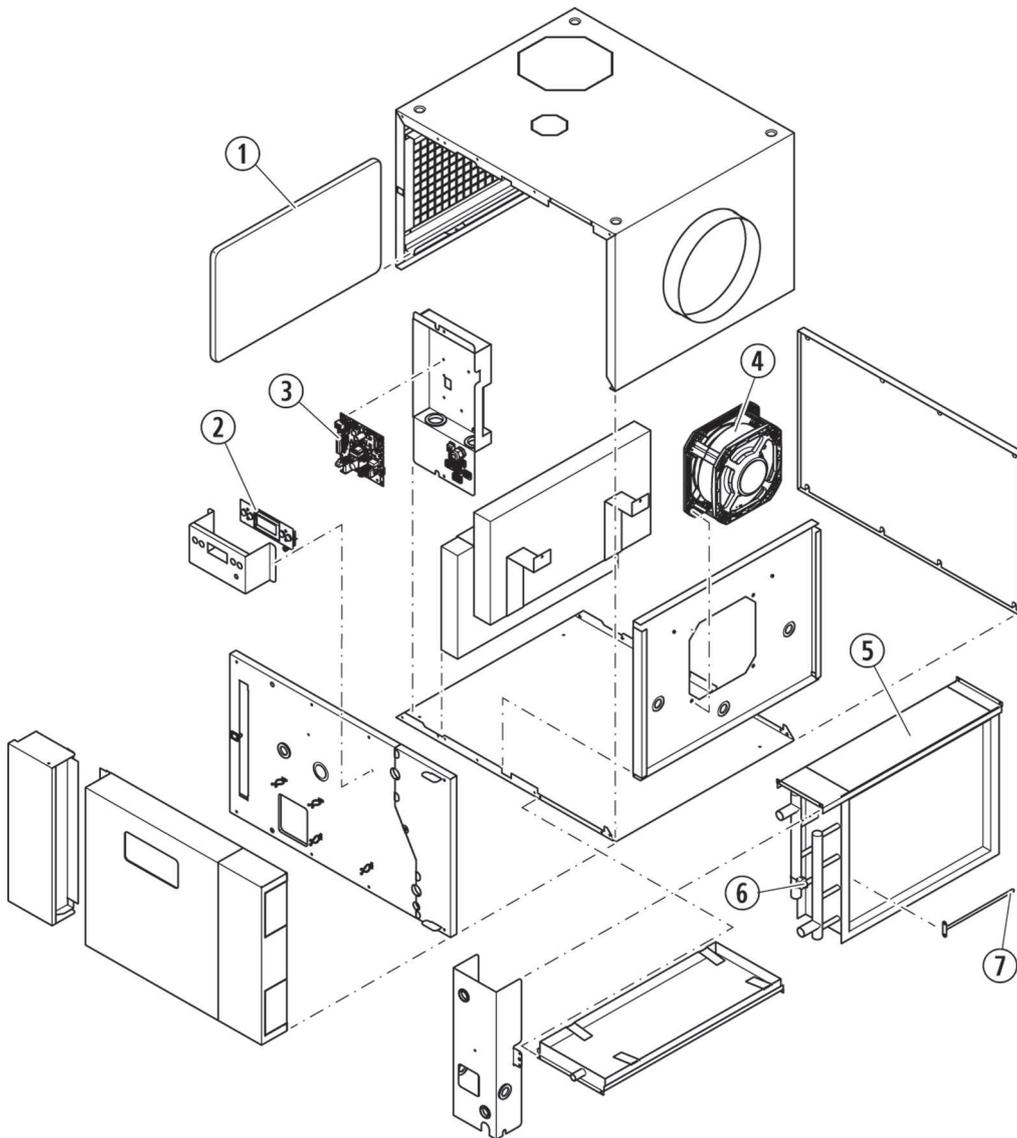


CO₂ sensors in combination with heat recovery units and Air Comfort



Connecting CO₂ sensor and Renovent Excellent

12.1 Exploded view



Exploded view

Number	Article description	Article code
1	G3 Filter Air Comfort	532610
2	Display Air Comfort	531776
3	Circuit board Air Comfort	531799
4	Ventilator Air Comfort	532611
5	Heat exchanger Air Comfort	532612
6	Water temperature sensor NTC 12k c-clip	531390
7	Discharge temperature sensor NTC 10k	531238

12.2 Service articles

See the Exploded view on page 50 for an overview of the service articles.

When ordering parts, please provide the following details:

- The name of the part
- The article code number
- The type of appliance
- The serial number
- The construction year



The type of appliance, serial number and construction year are stated on the identification plate behind the protective cover of the appliance.

The power cable is fitted with a circuit board connector. If a replacement power cable is required, always order from Brink.



A damaged mains connection may only be replaced by suitably qualified persons.

13.1 Parameter list

Parameter	Description	Default	Setting range	Step
1	T_max - Max. discharge temperature	60	1.0°C – 70.0°C	0.5°C
2	Qv_min – Set. percentage min. flow rate	20	10% – 100%	1%
3	Qv_max – Set. percentage max. flow rate	65	10% – 100%	1%
4	Qv_cooling – Set. percentage flow rate cooling	80	10% – 100%	1%
5	T_start - Start temperature control	30.0	0.0°C – 60.0°C	0.5°C
6	T_fan on - Ventilator switching on temperature	30.0	0.0°C – 60.0°C	0.5°C
7	T_fan off - Ventilator switching off temperature	25.0	0.0°C – 60.0°C	0.5°C
8	Hysteresis ventilator switching temperature	1.0	0.0°C – 5.0°C	0.1°C
9	Ventilation programme	0	0 = constant programme, see "Constant programme" on page 14 1 = fixed programme, see "Fixed programme" on page 16 2 = HRU programme on page 17	1
10	Frost protection limit 1	5.0	-20.0°C – +30.0°C	0.5°C
11	Frost protection limit 2	0	-20.0°C – +30.0°C	0.5°C
12	Hysteresis frost protection	2	0.0°C – 5.0°C	0.1°C
13	Switching eBus CO ₂ sensors off and on	OFF	ON/OFF	---
14	Min. ppm eBus CO ₂ sensor A	400	400 ppm – 2000 ppm	25
15	Max. ppm eBus CO ₂ sensor A	1200	400 ppm – 2000 ppm	25
16	Min. ppm eBus CO ₂ sensor B	400	400 ppm – 2000 ppm	25
17	Max. ppm eBus CO ₂ sensor B	1200	400 ppm – 2000 ppm	25
18	Min. ppm eBus CO ₂ sensor C	400	400 ppm – 2000 ppm	25
19	Max. ppm eBus CO ₂ sensor C	1200	400 ppm – 2000 ppm	25
20	Min. ppm eBus CO ₂ sensor D	400	400 ppm – 2000 ppm	25
21	Max. ppm eBus CO ₂ sensor D	1200	400 ppm – 2000 ppm	25
22	Address CO ₂ sensor A	5	5 – 30	1

Parameter	Description	Default	Setting range	Step
23	Address CO ₂ sensor B	6	5 – 30	1
24	Address CO ₂ sensor C	7	5 – 30	1
25	Address CO ₂ sensor D	8	5 – 30	1
26	Air Comfort index number	6	1 – 8	1
27	HRU index number	7	7 = Excellent 300 8 = Excellent 400	1

DECLARATION OF CONFORMITY

Manufacturers : *Brink Climate Systems B.V.*
Address : *P.O. Box 11*
NL-7950 AA Staphorst,
The Netherlands

Product : **Air Comfort**

The product described above complies with following directives

- ◆ 2014/35/EU (low voltage directive)
- ◆ 2014/30/EU (EMC directive)
- ◆ RoHS 2011/65/EU (substances directive)
- ◆ 2009/125/EG (327 (EU ErP directive))

The product bears the CE label:



A handwritten signature in black ink, appearing to be 'W. Hijmissen', is written over a horizontal line.

W. Hijmissen,

Managing director

Staphorst, 01-04-17

www.brinkairforlife.nl

BRINK

Air for Life

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