



Air for life

Installation regulations

Flair 450/600 Enthalpy

English



Installation regulations

Flair 450/600 Enthalpy



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 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 About this document

Thank you for choosing one of our products. This installation and operation instructions contains all required information to become familiar with your new product.

- Read this document before you begin working on the appliance.
- Follow the instructions in this document.

Failure to observe these instructions voids any Brink Climate Systems B.V. warranty.

For more information, feedback or suggestions: info@brinkclimatesystems.nl

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1.1 Copyright

This document, as well as all reports, illustrations, data, information, and other materials are the property of Brink Climate Systems B.V. and are disclosed by Brink Climate Systems B.V. only in confidence.

1.2 Scope of application of document

This document applies to: Flair 450/600 Enthalpy.

1.3 Safekeeping of this document

The user is responsible for the safekeeping of this document.

1. Hand this document over to the user after the installation of the system.
2. The document must be kept in a suitable location and must be available at all times.
3. The document must be included if the system is passed on to a third party.

1.4 Target group

This document is intended for plumbing, electrical and HVAC contractors.

A contractor is defined as a qualified and properly trained installer, electrician or similar professional.

Contractors trained and or authorized by Brink Climate Systems B.V. must also have the following qualifications:

- Product training for this appliance provided by Brink Climate Systems B.V..

The user is defined as somebody who has been trained to use the Flair 450/600 Enthalpy by a specialist.

1.5 Warnings

Warnings in the text warn you of possible risks before the start of an instruction. The warnings provide you with information on the possible severity of the risk using a pictogram and a keyword.



Danger

Imminently hazardous situation which, if not avoided, will result in death or serious injury.



Danger

Imminently electrical hazardous situation which, if not avoided, will result in death or serious injury.



Warning

Imminently hazardous situation which, if not avoided, could result in death or serious injury.



Caution

Potentially hazardous situation which, if not avoided, may result in minor or moderate injury.



Note

Situations that may result in potential equipment or property damage accidents.

The warnings are laid out as follows:



Warning

Possibilities : Danger / Warning / Caution / Note

Type and source of risk.

Explanation of risk

1. Action to prevent the risk

2 Safety

2.1 Required qualifications

- Only qualified electricians are permitted to work on electrical components.
- The appliance may only be serviced or repaired by the Brink Climate Systems B.V. customer service team or a specialist authorized by Brink Climate Systems B.V..
- Inspection and maintenance must be performed by a specialist trained by Brink Climate Systems B.V..

2.2 Intended use

The appliance is intended for use in a domestic environment only.

Using the appliance for other purposes is only permitted after consultation with the national representation of Brink Climate Systems B.V. and requires commissioning by Brink Climate Systems B.V.'s service department. Please contact the local installer and the national representation of Brink Climate Systems B.V. for this purpose.

Any deviations from these applications are considered non-compliant. Do not use the appliance under the following environmental conditions:

- Explosive environments or explosive atmospheres.
- Highly corrosive (e.g., chlorine, ammonia) or polluted atmospheres (e.g., with metal-containing dust).
- Locations situated more than 2000 m above sea level.

The appliance may only be used in the following ambient conditions:

- Only to be used in enclosed and frost-proof areas ($> +2^{\circ}\text{C}$).
- The ambient temperature and relative humidity must be within the limits provided in the technical specifications.

2.3 Unintended use

Any use other than the intended use is not permissible. Any other use or changes to the product at any time including during fitting and installation invalidate all warranty claims. The user has sole liability for such use.

2.4 Safety measures

1. Never remove, bypass or otherwise disable any safety or monitoring equipment.
2. Only operate the appliance if it is in perfect technical condition.
3. Any faults or damage that impact safety must be remedied immediately by a qualified contractor.
4. All faulty components must be replaced with original Brink Climate Systems B.V. spare parts.
5. Wear personal protective equipment.

2.5 General safety information



Danger

Electrical voltage Danger of death from electrocution.

- All electric work must be carried out by a qualified person.



Danger

Rotating parts in unit.

- Only use the appliance with the housing closed.

2.6 Handover to the user

1. Provide these instructions and the other applicable documents to the user.
2. Instruct the user how to operate the appliance
3. Make the user aware of the following:
 - Inspections and maintenance must be performed by a contractor trained by Brink Climate Systems B.V..
 - Brink Climate Systems B.V. recommends concluding an inspection and maintenance contract with a contractor trained by Brink Climate Systems B.V..
 - The appliance may only be serviced or repaired by the Brink Climate Systems B.V. customer service team or a specialist authorised by Brink Climate Systems B.V..
 - Use only genuine Brink Climate Systems B.V. spare parts.
 - Do not make any technical changes to the appliance, protected areas or control components.
 - This "Installation regulations document" and the other applicable documents must be kept safely in a suitable location and must be available at all times.

2.7 Standards and regulations

Observe all standards and guidelines applicable to the installation and operation of this ventilation system in your country.

Observe the information on the appliance type plate.

The following local regulations must be complied with during installation and operation of the ventilation system:

- Siting conditions.
- Electrical connection to the power supply.
- Provisions of the regionally applicable Building Regulations.

The following general regulations, rules and guidelines must be observed for installation in particular:

- Quality requirements of ventilation systems in dwellings according to national norms and regulations (e.g. NL: ISSO 61 and 62, DE: DIN 1946-6).
- Quality requirements of balanced ventilation in dwellings according to national norms and regulations (e.g. NL: ISSO 61 and 62, DE: DIN 1946-6).
- The regulations for ventilation of dwellings and residential buildings.
- Safety provisions for low-voltage installations.
- The regulations for connecting indoor plumbing in homes and residential buildings.
- Any additional regulations of the local utilities.
- The installation regulations for the Flair 450/600 Enthalpy.
- In addition to the above design and installation requirements and recommendations, the national building and ventilation regulations must be respected.

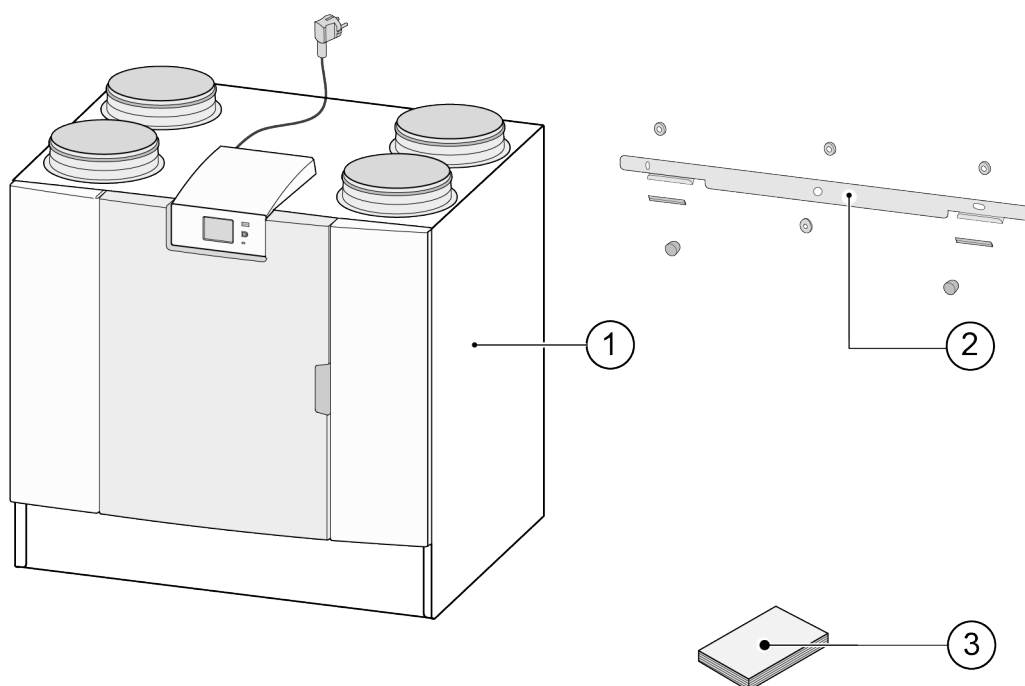
3 Scope of delivery

3.1 Delivery size

Before installation of the heat recovery appliance is started, check that it has been supplied in complete and undamaged condition.

The delivery size of the heat recovery appliance type Flair 450/600 Enthalpy consists of the following components:

1. Heat recovery appliance
2. Wall mounting bracket consisting of:
 - 1x mounting bracket
 - 2x protective caps
 - 2x rubber strip
 - 3x rubber rings
 - 1x washer
3. Documentation set consisting of:
 - 1x short installation instructions
 - 1x occupant's instructions



4 General

The Flair 450/600 Enthalpy is a ventilation unit with heat recovery for the balanced ventilation of dwellings.

Features:

- Maximum capacity 450 m³/h or 600 m³/h
- High efficiency heat exchanger
- Filters ISO Coarse 60%
- Modular electric preheater
- Automatic bypass valve
- Touchscreen
- Adjustable air quantity
- Filter indication on the appliance and the possibility of a filter indication on the multiple switch
- An intelligent frost protection
- Low sound level
- Constant flow control

The Flair 450/600 Enthalpy is available in two types:

- the **"Flair 450 Enthalpy"**
- the **"Flair 600 Enthalpy"**

For all the Flair 450/600 Enthalpy there is an optional Plus PCB available with more functions/ connection possibilities (> [Electrical diagram](#) -> page 51, [Optional Plus pcb](#) -> page 21).

These installation instructions describe both the standard Flair 450/600 Enthalpy and the Flair 450/600 Enthalpy with optional Plus PCB.

The Flair 450/600 Enthalpy are available in **Left-hand** and **Right-hand** versions; it is not possible to convert the left and right-hand models into one another.

For the correct connection ducts and dimensions (> [Connections and dimensions](#) -> page 15).

For continues balanced ventilation, we recommend, using an additional external preheater for environments with a outside temperature less then -10 °C.

When the appliance is placed in an area where very cold outside air is expected for a long time (<-15 °C), an extra preheater (see → [Connecting preheater](#) -> page 62) must always be installed!

The appliance comes ready to plug in with a 230 V mains plug.

5 Technical specifications

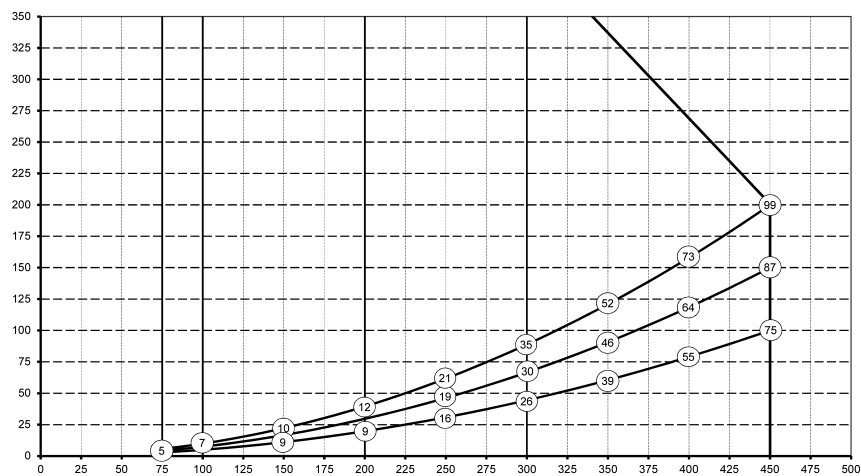
5.1 Technical information Flair 450 Enthalpy

Flair 450 Enthalpy (Plus)										
Supply voltage [V/Hz]	230V/50Hz									
Dimensions (w x h x d) [mm]	850 x 800 x 660									
Duct diameter [mm]	ø200									
Weight [kg]	57,5									
Filter class	ISO Coarse 60% (ISO ePM1.0 50% for the air supply optional)									
Fan setting (factory setting)	0		1		2		3		max	
Factory setting [m³/h]	75		100		200		300		450	
Permissible resistance of duct system [Pa]	3	6	5	10	20	40	44	89	100	200
Rated power (excl. preheater) [W]	10.4	10.8	12.4	13.2	17.6	23.8	51.9	69.3	149.5	198.8
Rated current (excl. preheater) [A]	0.17	0.17	0.19	0.19	0.20	0.27	0.53	0.69	1.32	1.68
Max. rated current (incl. preheater on) [A]	5.2									
Rated power preheater [W]	1000									
Cos φ	0.271	0.274	0.291	0.295	0.378	0.383	0.425	0.437	0.492	0.514
Wi-Fi Frequency range (OFR)	2400 MHz - 2483,5 MHz									
Wi-Fi Max. power (EIRP)	<20 dBm (100 mW)									
Permitted ambient conditions	Between +2°C and +40°C. RH <90% non condensing									
Storage and transport conditions	Between -20°C and +45°C. RH <90% non condensing									
Permitted air temperature through appliance	Between -20°C and +45°C with standard internal pre-heater * Add an external pre-heater when the outside temperature is below -20°C for longer periods of time.									
Sound power										
Ventilation capacity [m ³ /h]				100	200	200	300	300	450	450
Sound power level Lw(A)	Static pressure [Pa]			25	25	50	50	100	100	150
	Casing radiation [dB(A)]			<38.1	36.5	42.0	45.5	46.0	51.7	54.0
	Duct "Extract air" [db(A)]			<36.3	38.5	40.0	45.0	42.5	49.0	49.5
	Duct "Supply Air" [db(A)]			<38.5	43.5	47.5	53.0	53.5	58.6	59.0

*) Duct noise including end correction

In practice the value may differ by 1dB(A) through measurement tolerances.

**Resistance
of duct
system [Pa]**



Note:

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

Flow rate [m³/h]

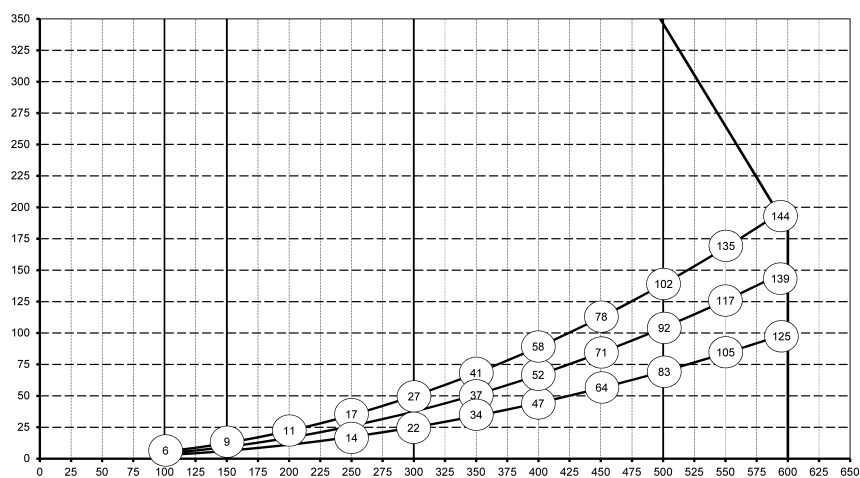
5.2 Technical information Flair 600 Enthalpy

Flair 600 Enthalpy (Plus)										
Supply voltage [V/Hz]	230V/50Hz									
Dimensions (w x h x d) [mm]	850 x 800 x 660									
Duct diameter [mm]	ø200									
Weight [kg]	57,5									
Filter class	ISO Coarse 60% (ISO ePM1.0 50% for the air supply optional)									
Fan setting (factory setting)	0		1		2		3		max	
Factory setting [m³/h]	100		150		300		500		600	
Permissible resistance of duct system [Pa]	3	6	6	13	25	50	69	139	100	188
Rated power (excl. preheater) [W]	12.1	12.5	17.2	18.3	44.5	54.2	166.6	203.1	260.6	288.0
Rated current (excl. preheater) [A]	0.18	0.19	0.23	0.24	0.46	0.55	1.45	1.71	2.11	2.3
Max. rated current (incl. preheater switched on) [A]	5.7									
Rated power preheater [W]	1000									
Cos φ	0.288	0.291	0.322	0.327	0.421	0.427	0.500	0.516	0.536	0.544
Wi-Fi Frequency range (OFR)	2400 MHz - 2483,5 MHz									
Wi-Fi Max. power (EIRP)	<20 dBm (100 mW)									
Permitted ambient conditions	Between +2°C and +40°C. RH <90% non condensing									
Storage and transport conditions	Between -20°C and +45°C. RH <90% non condensing									
Permitted air temperature through appliance	Between -20°C and +45°C with standard internal pre-heater * Add an external pre-heater when the outside temperature is below -20°C for longer periods of time.									
Sound power										
Ventilation capacity [m ³/h]				150	300	300	500	500	600	600
Sound power level Lw(A)	Static pressure [Pa]			25	50	100	100	150	100	150
	Casing radiation [dB(A)]			37.5	45.5	46.0	56.0	54.5	56.5	56.5
	Duct ‘Extract Air’’ [db(A)]			35.0	45.0	42.5	51.0	52.0	53.5	56.5
	Duct ‘To dwelling’ [db(A)]			43.5	53.0	53.5	60.5	61.5	62.0	66.6

*) Duct noise including end correction

In practice the value may differ by 1dB(A) through measurement tolerances.

**Resistance
of duct
system [Pa]**



Flow rate [m³/h]

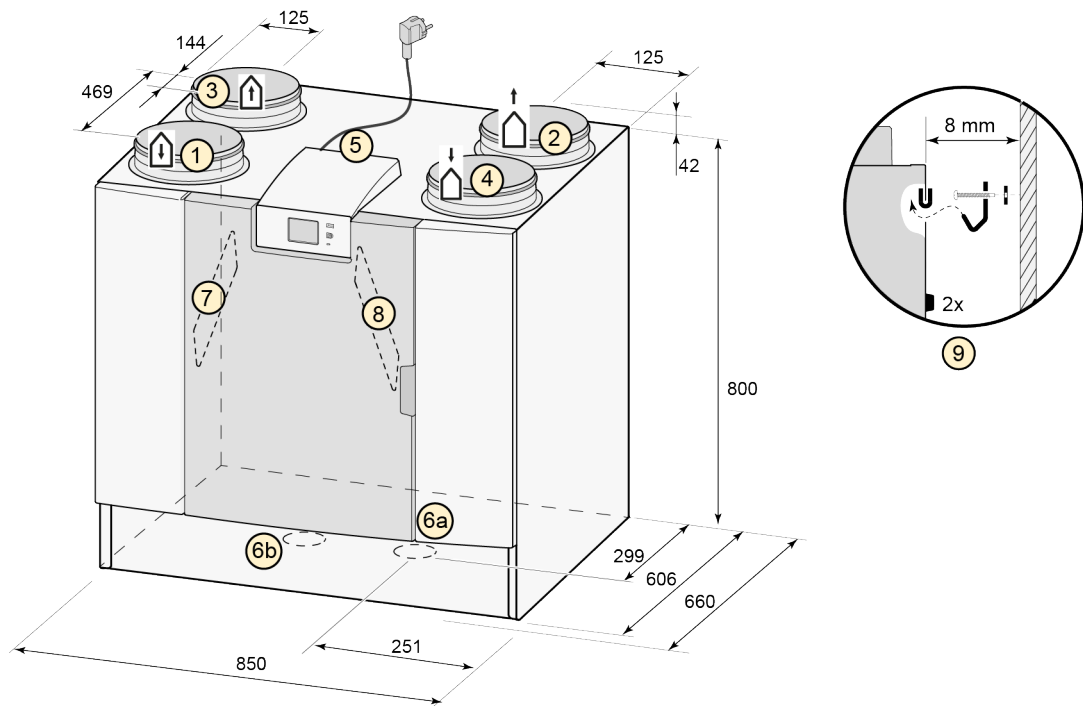
Note:

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





5.3 Connections and dimensions

The Flair appliance is available in a left-hand and right-hand version. With a left-hand version the “warm” connections (from dwelling 3 and to dwelling 1) are on the left-hand side of the appliance. With a right-hand version the “warm” connections (1 & 3) are on the right-hand side of the appliance.

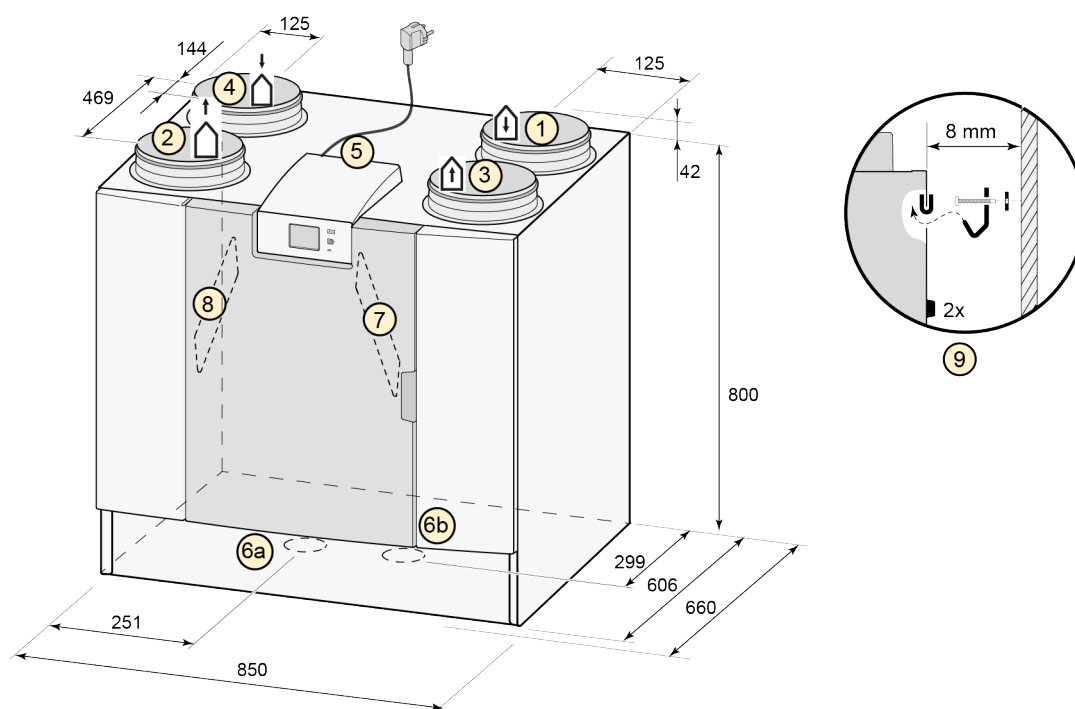
Left-hand version



All dimensions in millimeters. Diameter of all collars is 200 mm

1	Supply air	
2	Exhaust air	
3	Extract air	
4	Outdoor air	
5	Electrical connections	
6a	Sealing cap	
6b	Sealing cap	
7	Extract air filter	
8	Supply air filter	
9	Mounting bracket	

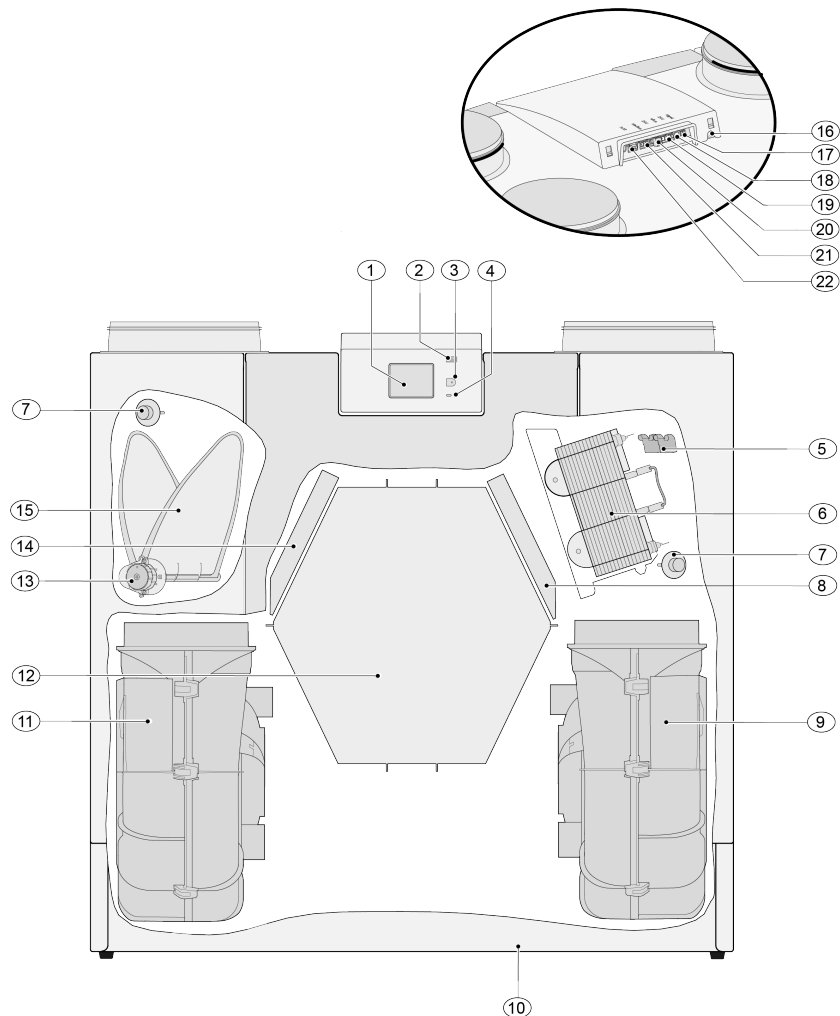
Right-hand version



All dimensions in millimeters. Diameter of all collars is 200 mm

1	To dwelling	
2	Exhaust air	
3	Extract air	
4	Outdoor air	
5	Electrical connections	
6a	Sealing cap	
6b	Sealing cap	
7	Extract air filter	
8	Supply air filter	
9	Mounting bracket	

5.4 Appliance parts



The appliance shown above is a left-hand version: in the case of a right-hand version, the connector of the preheater and the bypass valve are installed in mirror image!

1	Touchscreen	12	Enthalpy heat exchanger
2	USB connector (X13)	13	Motor bypass valve
3	Service connector	14	Exhaust air filter
4	LED indicator	15	Bypass valve
5	Maximum protection preheater	16	Power cable 230 volt
6	Preheater	17	Signal output (X19))
7	Temperature sensor (2x)	18	24 volt connector (X18)
8	Supply filter	19	eBus connector (X17)
9	Exhaust fan	20	24 volt connector (X16)
10	Sealing cap	21	Modbus/ internal bus connector (X15)
11	Supply fan	22	Multiple switch connector (X14)

6 Operation

6.1 Description

The appliance is supplied ready to use and starts up automatically to standard settings when plugged in. The discharged dirty indoor air warms up the supplied fresh clean outdoor air. That saves energy while fresh air is supplied to the desired rooms. The appliance has four ventilation levels. The air flow rate can be adjusted for each ventilation level. The constant volume control system ensures a balanced airflow between the supply and exhaust fan independent of the duct pressure. If no external control is connected to the appliance, then the appropriate ventilation level can be chosen on the display.

There are several options for external control :

- 4-way switch (→ [Connecting multi-position switch with filter indication](#) -> page 53, [Connecting multi-position switch](#) -> page 53),
- Brink Air Control (→ [Connecting Air Control](#) -> page 58)
- Brink Touch Control (→ [Connecting Touch Control](#) -> page 59)
- CO₂ sensor(s) (→ [Connecting CO₂ sensor\(s\)](#) -> page 61)
- humidity sensor (→ [Connecting humidity sensor](#) -> page 60)
- Brink App (→ [Brink Home Connecting instructions](#) -> page 34)

6.2 Bypass

The 100% bypass function ensures that the polluted discharged air flows past instead of through the heat exchanger, so that cooler supply air is not heated.

Particularly during summer nights it is desirable to supply cooler outside air.

The bypass valve opens and closes automatically when a number of conditions are met, see table below.

Automatic bypass control strategy

Bypass Open	<ul style="list-style-type: none">▪ Outdoor temperature higher then 10°C (temperature setting adjustable with parameter 2.3) and▪ Outdoor temperature lower than the indoor temperature of the dwelling and▪ Temperature from the dwelling higher then 24°C (temperature setting adjustable with parameter 2.2).
Bypass Closed	<ul style="list-style-type: none">▪ Outdoor temperature lower then 10°C (temperature setting adjustable with parameter 2.3) or▪ Outdoor temperature higher than the indoor temperature of the dwelling or▪ Temperature from the dwelling is lower than 24°C (temperature setting adjustable with parameter 2.2) minus the set hysteresis at parameter 2.4.

The appliance features a 'Bypass boost' function. When this function is activated with parameter 2.5, the appliance is set to the ventilation level set at parameter 2.6 as soon as the bypass opens.

6.3 Frost protection

To prevent freezing of the heat exchanger at low outdoor temperatures, the appliance features a frost control. Temperature sensors monitor the temperatures inside the appliance, when required the preheater is activated. Optionally an imbalance strategy is activated if at very low temperatures, the preheater has insufficient capacity.



Warning

When operating a ventilation system and a room-air dependent fireplace at the same time, no pressure imbalance of the room air may occur. When operating a ventilation system with a fireplace, the responsible district chimney sweeper must always be consulted and the fireplace regulations of the individual countries must be observed. The system must always be approved by the responsible district chimney sweeper.

6.4 Fire automation

From factory, the appliance features a "fire automation" functionality.

When fire automation is activated the fans of the appliance will stop.

Fire automation can be activated through a special switch pattern on RJ12 connector X14, which is located on the appliance PCB.

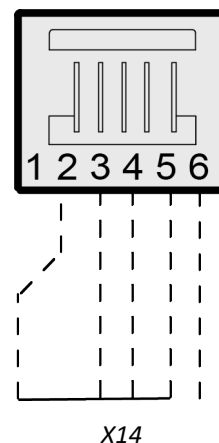
Additionally, parameter 16.1 "signal output" can be set to "external contact", this will switch the output of connector X19 from 24Vdc to 0V when "fire automation" is activated. Connector X19 (blue) is located on the appliance PCB.



Note

The filter and warning functionality of connector X19 will be overruled when parameter 16.1 is set to "external contact". X19 will only provide 24V or 0V depending on X14 inputs.

The function "fire automation" will be activated when connector X14 pin# 3, pin# 4 and pin# 5 are all shorted to pin#2 (ground).



Note

Switches (relay or electronic) used to short any input to ground should be able to provide at least 5mA of switch current between any of the inputs (pin# 3-5) and pin#2 (ground).

Important:

When X14 is not used (no multi-position switch connected), X14 pin #3, #4 and #5 can be connected to each other, the connection to pin#2 (ground) can then be done by just one switch.

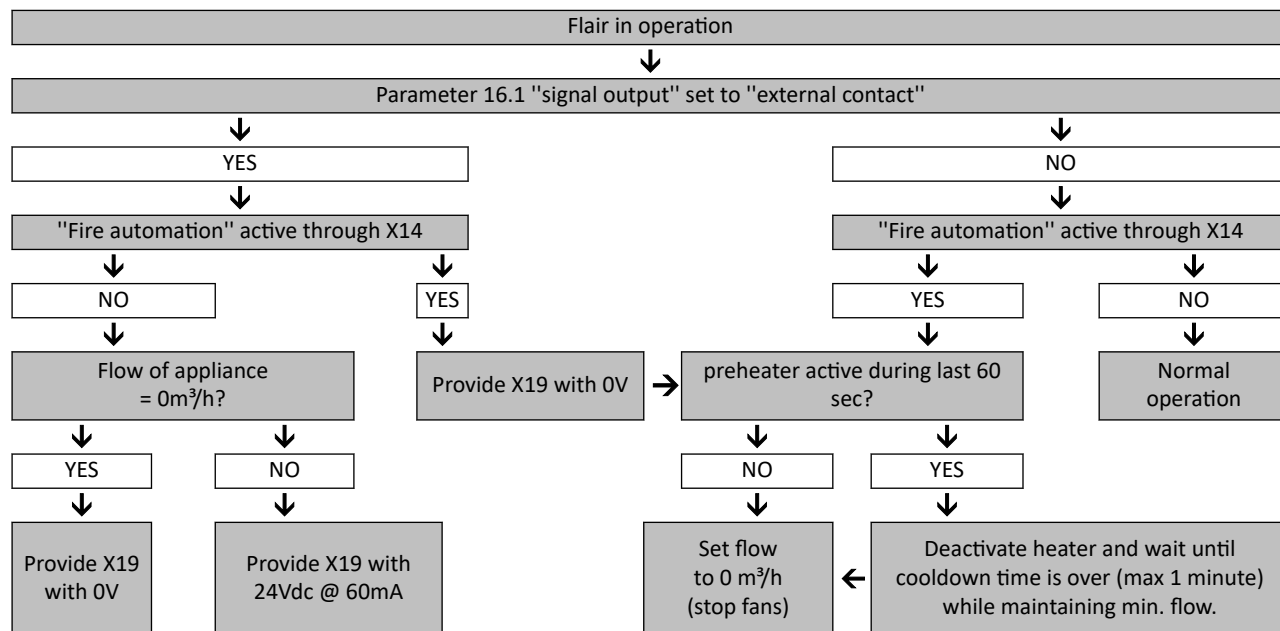
When X14 is used by a multi-position switch, the "fire automation" function can be activated with the use of a Brink RJ12 splitter (article number 510472).

Install the splitter between X14 on the appliance and the multi-position switch to maintain the use of the multi-position switch.

The not used connection on the splitter can then be used for "fire automation".

Whenever a splitter is used, pin#3-5 should be switched to ground individually and should not be connected together, if pin#3-#5 are connected the multi-position switch will not work.

Flow diagram "Fire automation"

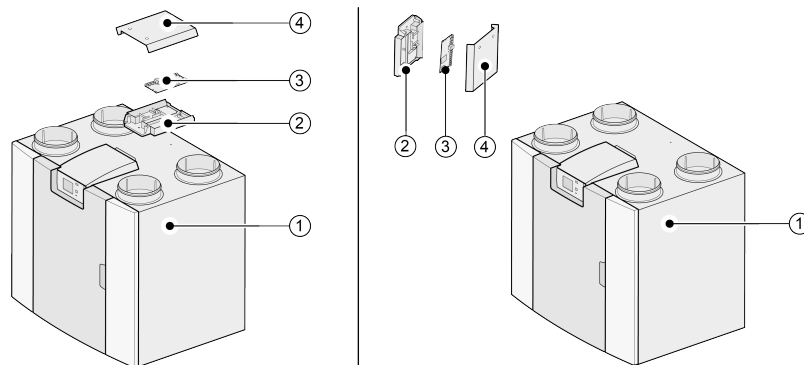


6.5 Optional Plus pcb

All standard appliances can be modified into a Plus version using the Plus pcb upgrade set. The appliance equipped with this optional control board (Plus pcb) has extra connections for various applications, see →

This extra control board can be fitted behind the existing control board on top of the appliance.

It is also possible to mount the Plus pcb with its casing on a wall near the appliance; this can be helpful in circumstances such as a poor WiFi signal.



1 = For example a Flair 325 appliance with mounted Basic pcb

2 = Optional Plus pcb mounting plate

3 = Optional Plus pcb

4 = Optional Plus pcb cover

7 Installation

7.1 Installation general

Installing the appliance:

1. Placing the appliance (→ [Placing the appliance](#) -> page 22)
2. Connecting the air ducts (→ -> [Connecting air ducts](#) -> page 24)
3. Electrical connections (→ [Electrical connections](#) -> page 25)

The installation and installing should meet the following requirements:

- Quality requirements of ventilation systems in homes, ISSO 61.
- Quality requirements of balanced ventilation dwellings, ISSO 62
- Regulations regarding the ventilation of homes and residential.
- Safety provisions for low-voltage installations
- Any additional regulations of the local power companies
- The installation regulations of the Flair 450/600 Enthalpy appliance.
- In addition to the above design and installation requirements and recommendations, the national building and ventilation regulations must be respected.

7.2 Placing the appliance

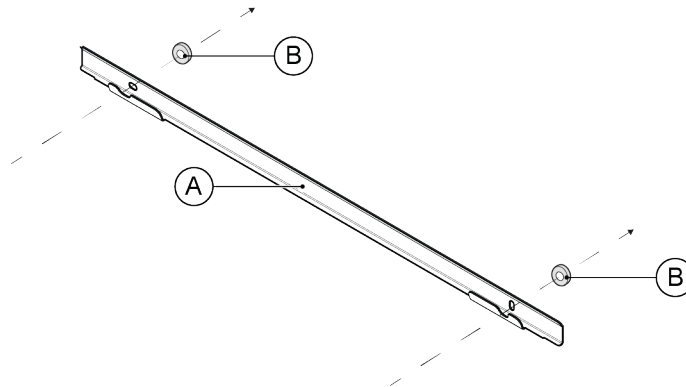
The Flair 450/600 Enthalpy appliance can be mounted onto the wall with the supplied mounting bracket. For a vibration-free installation, the appliance must be mounted to a solid wall with a minimum mass of 170 kg/m². A gypsum block or metal stud wall does not suffice! Additional measures such as double panelling or extra studs are required in that case. On request, a mounting support for floor mounting (with the same minimal mass) is available.

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

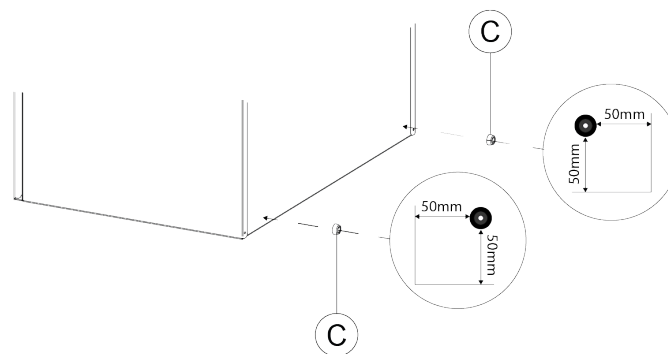
- The appliance must be installed in an insulated frost-free room
- The appliance must be placed level.
- The appliance must not be placed in a room with a high level of condensation (such as a bathroom).
- In order to prevent condensation on the outside of the appliance, the installation room must be ventilated.
- Newly built houses with a lot of moisture from the construction work need to be ventilated in a natural manner before being put to use.
- 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.
- Make sure there is a free space of at least 25 cm above the appliance, for connecting the appliance and any necessary servicing of the circuit board.

Installing the appliance

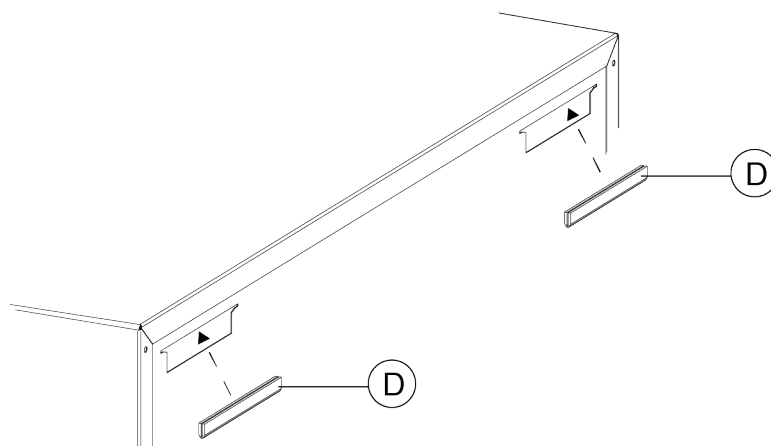
1. Mount the wall bracket (A) **level** on the wall through the the 2 12x7mm holes.
2. Place the **2** rubber rings (B) between the wall and the mounting bracket.
3. Use suitable screws and plugs, depending on the wall construction.



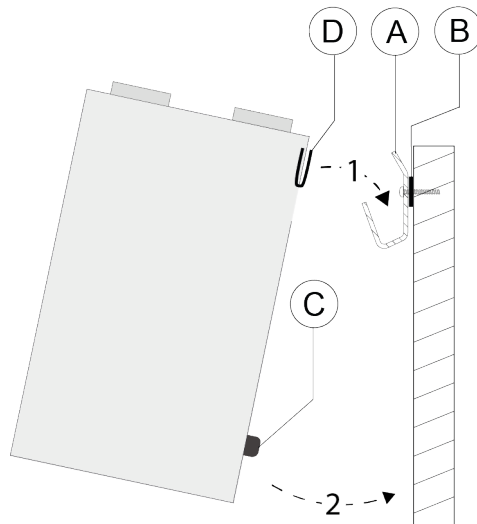
4. Install the **2** self adhesive protective caps (C) on the **backside** of the appliance, aprox. 50mm from the side and bottom edges.



5. Install the **2** rubber strips (D) in the back slots of the appliance.



6. Hang the appliance on the mounting bracket [1] preferably with 2 people.
7. Let the bottom side of the appliance rest against the wall [2].



7.3 Connecting air ducts



Warning

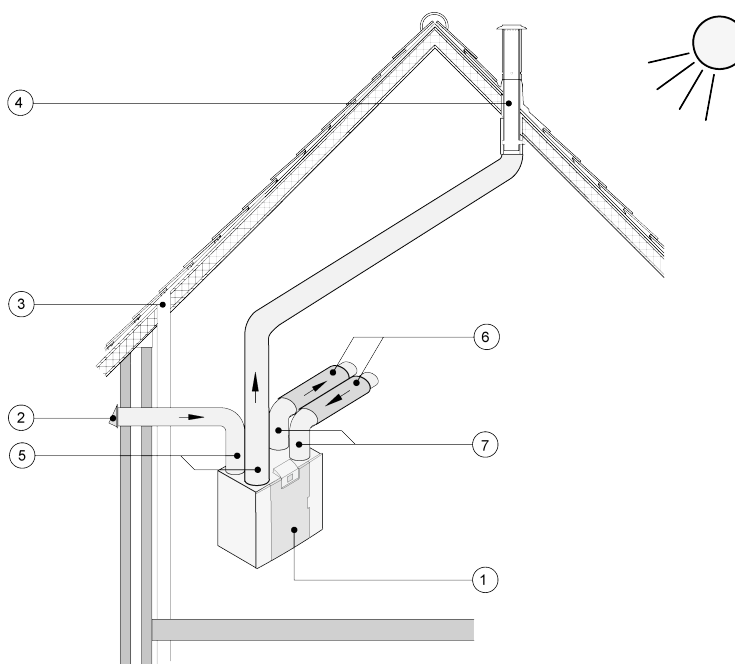
When installing and maintaining the appliance, check that no dust or dirt has accumulated on the preheater! Clean the preheater well during maintenance.

- All air ducts must be installed airtight. The Flair appliance are supplied with sealing rings.
- To prevent condensation on the outside of the external supply air duct and exhaust air duct of the appliance, the external supply air duct and exhaust air duct must be equipped with an external vapor barrier up unto the unit. If thermally insulated ducts are used, additional insulation is not necessary.
- To comply with the maximum installation sound level of 30 dB(A), every installation must be assessed individually to determine what measures will be required to reduce the sound level. In order to optimally reduce the sound level of the fans from and to the home, the installation of flexible silencers of at least 1 m are required in the supply and extract air ducts, additional measures may be necessary.
- Prevent crosstalk through the air supply and discharge ducts by using separate branches to the diffusers. If necessary, the supply ducts must be insulated, for instance when they are installed outside the insulated envelope.
- The outside air supply must be arranged from the shadowed side of the dwelling, preferably from the wall or an overhang.
- The discharge duct must be fed through the roof boarding in such a way that no condensation forms in the roof boarding.
- The discharge duct between the appliance and the roof sleeve should be such that surface condensation is prevented.
- Use an insulated ventilation roof terminal that prevents (drifting) snow from being sucked in. Do not use a terminal that opens directly above the roof tiles.
- To keep sound levels low, restrict the external duct pressure to 100 Pa. If the resistance of the duct system is higher than the maximum curve of the ventilator, the maximum ventilation capacity will be lower.
- Choose the location of the exhaust air outlet and the sewer stack vent so that noise nuisance is prevented as much as possible.
- The location of the air valves must be chosen in such a way to prevent fouling and drafts. We recommend using Brink Climate Systems B.V. supply valves.

- Installed flexible silencers need to be accessible.
- Install sufficient overflow openings, door gap 2 cm.

Maximum allowed airspeeds:

Type of ducts	Maximum Air Speed [m/s]
Collective duct	5
Main duct	4
Duct branch: supply	3
Duct branch: extract	3,5



1 = Flair 450/600 Enthalpy right-hand version (place level)

2 = Preferred ventilation air supply

3 = Sewer release

4 = Preferred location of ventilation air discharge; Use Brink Climate Systems B.V. insulated ventilation roof sleeve

5 = Thermally insulated piping

6 = Sound absorber(s)

7 = Duct to and from house

7.4 Electrical connections

7.4.1 Power plug connection

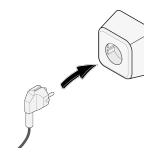


Warning

Only connect the power plug when installation is complete.

The appliance will start up when the power plug is connected to a powered wall socket.

Connect the appliance's power plug to an easily accessible earthed wall socket. The electric installation must comply with the requirements of your power company.



7.4.2 Multi-position switch connection

The black RJ12 connector X14 is used for connecting a multi-position switch (optional and not supplied with the appliance). This connector is located at the back of the PCB on top of the appliance.

For wiring diagrams:

- Multi-position switch (→ [Connecting multi-position switch with filter indication](#) -> page 53)
- Combination of multi-position switches (→ [Connecting extra multi-position switch with filter indication](#) -> page 55)

The multi-position switch can be used to activate a 30-minutes boost mode by holding the switch in mode 3 for less than 2 seconds and directly turning it back to mode 1 or 2. The boost mode can be reset by holding the switch in mode 3 for longer than 2 seconds or by switching it to absence mode.

7.4.3 Connecting an eBus accessory



Warning

This connector is polarity sensitive. The connection will not work if the wires are connected to the wrong screw terminals!

For connecting an eBus accessory, use the 2-pole detachable (green) connector X17 located at the rear of PCB. The eBus protocol can be used to connect:

- Brink Air Control (→ [Connecting Air Control](#) -> page 58).
- Brink Touch Control (→ [Connecting Touch Control](#) -> page 59)
- CO₂ sensor(s) (→ [Connecting CO₂ sensor\(s\)](#) -> page 61)
- Extra eBus preheater (→ [Connecting preheater](#) -> page 62)
- Extra postheater (→ [Connecting postheater](#) -> page 63)

7.4.4 24 volt connection



Warning

The maximum power from X16 and X18 is 5 VA per output.

The two (2) black connectors X16 and X18 are used to power 24V accessories. These connectors are located at the back of the PCB on top of the appliance.

7.4.5 Humidity sensor connection

An optional humidity sensor needs to be connected to connection X07 on the appliance main pcb. In order to connect the humidity sensor to the appliance, the pcb cover has to be removed to access the X07 connection on the pcb.

Use the cable supplied with the humidity sensor.

For connecting the humidity sensor, see → [Connecting humidity sensor](#) -> page 60 .

7.4.6 Connecting BrinkBus

The (red) Modbus/ BrinkBus connector X15 can be used for coupling appliances (→ [Coupling appliances with internal Bus](#) -> page 27).

The function of this connector can be adjusted using step number 14.1 to 14.4 in the settings menu.

If the appliance is fitted with a (Plus) pcb, then this red connector X15 is also in use for connecting the (Plus) pcb; several cables then have to be connected onto connector X15.

7.4.7 Signal output connection

The blue X19 Connector is used to indicate a filter message, fault message or fire automation.

This connector is located at the back of the PCB on top of the appliance.

The operation of this function is set by parameter 16.1, see → [Settings](#) -> page 67 .

According to the setting connection X19 will act as a potential free contact.

7.4.8 ModBus connection



Note

If the ModBus option is connected and active, the ventilation setting cannot be changed through the display or, if applicable, the connected multi-position switch. Also any connected humidity sensor(s) will not work.

The appliance can be connected with a ModBus system such as a building management system.

Using the (red) 3-pin connector X15 (or with the (Plus) version the red connector X06 on the UWA2-E pcb) a connection can be made between the appliance and the ModBus system.

See → [Electrical diagram](#) -> page 51 for correct connections and correct settings of the jumpers on the PCB.

For more information and the correct modBus settings, please consult the Modbus manual on the website.

7.4.9 Coupling appliances with internal Bus

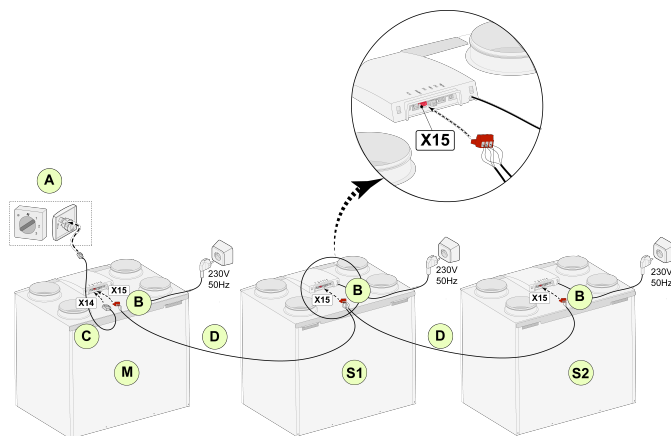


Note

Because of polarity sensitivity, always connect the internal Bus contacts X15-1 with one another, and the contacts X15-2 and the contacts X15-3 with one another. Never connect X15-1, X15-2 or X15-3 with one another!

If a (Plus) pcb has been installed; several cables need to be connected to the X-15 connector.

Use twisted pair cable for connection X15-2 & X15-3.



For M (master):

Step no. 8.1 - Master

Step no. 14.1 - internal Bus

For S1 (Slave 1):

Step no. 8.1 - Slave

Step no. 14.1 - internal Bus

For S2 (Slave 2):

Step no. 8.1 - Slave

Step no. 14.1 - internal Bus

A = multi-position switch

B = 3-pole connector red

C = Modular cable

D = 3-core low voltage cable

M = Master appliance (For example an appliance type 4-0)

S1/S2 = Slave appliances (For example an appliance type 4-0); connect max. of 10 appliances via internal Bus.

When connecting multiple units by internal bus, all appliances will have the same air flow rate as the appliance that is set as "Master". The fault messages of all appliances will be shown on the display of the master appliance as well as on the display of the relevant appliance. When using a Brink Air Control or the BrinkHome, always connect this to the Master.

After connecting the cables configure each Flair 450/600 Enthalpy appliance:

- Enable "internalBus" in menu 14.1 "Type of Bus connection" where shortly after the network symbol appears.
- Configure each slave in menu 8.1 "Appliance setting slave 1, slave 2 etc where shortly after the M symbol appears on the master appliance and S1, S2 symbol on slave appliances
- Power down and up all appliances.

**Note**

Any accessory such as moisture sensor, position switch, extension board or any eBus device must be connected to the master appliance only.

8 Display

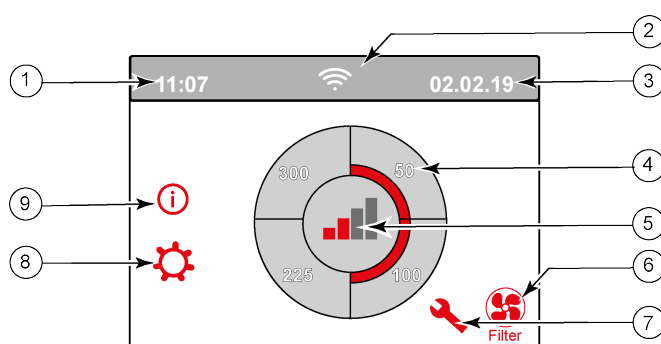
8.1 General explanation of control panel

A display with touchscreen is located at the front of the appliance. This display is used to operate the appliance and to provide the user with information about the status of the appliance. When the appliance is turned on, the display briefly shows the software version on start up; afterwards the "Main screen" is displayed (see below).

The factory set language of the menu is English.

The desired language/ date & time can be modified in the settings menu, see step number 15.1 to 15.10 in the settings table (→ [Settings](#) -> page 67)

Main screen



1 = Current time

2 = Connectivity (only displayed if applicable)

3 = Current date

4 = Set ventilation flow rate; the red bars indicate the selected ventilation flow rate.

In this example the active ventilation flow rate is 100 m³/h, 59CFM.

5 = Mode

6 = Filter message (only displayed if applicable)

7 = Fault (only displayed if applicable)

8 = Access to settings menu

9 = Access to information menu



Note

Filter message and fault message are located in the same place on the display; fault display has a higher priority, and so will always be shown first even when there is an active filter message!



Note

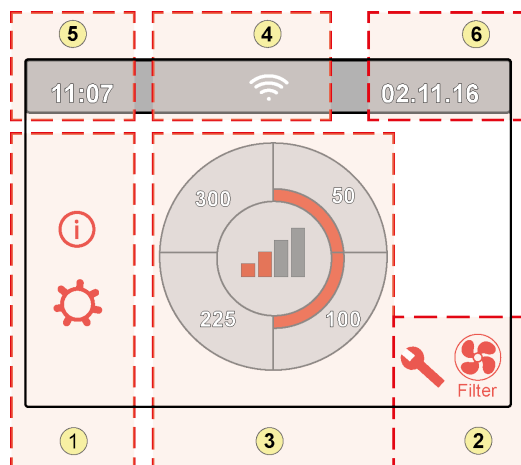
From factory, the menu language is set to English.

The desired language/date and time can be set in the setting menu; to do this, go to the table of setting values (®) step number 15.1 to step number 15.10.

8.2 Display layout

The screen is divided up into 6 zones where various symbols/displays can be shown per zone.

Layout of main screen



1 = Navigation

2 = Notifications

3 = Main functions















4 = Connectivity information




5 = Time

6 = Date

Various symbols can be shown on the display depending on the screen that is shown, the version of the appliance and any connected accessories.

Zone no.	Symbol on display	Description
1		By pressing here you gain access to the information menu; values shown here are read only. It is not possible to change values in this menu.
		By pressing here you gain access to the settings menu. In this menu you can change the various values. Settings can be changed in this menu for all (factory) settings: - Standard appliance (→ Setting values standard appliance -> page 67). - The (Plus) version setting values (→ Setting values appliance with (Plus) pcb -> page 70). Caution: Incorrect settings can disrupt the operation of the appliance!
		Use these arrows to go up or down the various menus or to increase or decrease the values of the relevant settings.
		This arrow takes you back one step in the menu.
		This takes you back to the main screen.
2		Filter message symbol; this is only shown if the filter has to be cleaned or replaced. See chapter "Cleaning filter" (→ Cleaning filters -> page 45) for more information.
		This symbol is shown if a fault has occurred in the appliance; see chapter Faults (Storingsanalyse Fault analysis -> page 41) for more information.

Zone no.	Symbol on display	Description
3		Control using multiple position switch.
		Control by means of Brink Home.
		Control using touchscreen on appliance; this setting is active for half an hour.
		Control using touchscreen on appliance; touchscreen is permanently set as multiple position switch by setting step number 15.8 to "yes".
		Control using humidity sensor.
		Control using CO ₂ sensor.
		Control using demand-driven ventilation.
		Break contact active or make contact active.
		This appliance is set as Primary appliance if a number of appliances are connected (cascade)
	 	Appliance is set as secondary appliance; a maximum of 9 appliances can be connected to a Primary appliance.
		Control via eBus for example Brink Touch Control .
		Control via ModBus or internal Bus.
		Bypass boost is active.

Zone no.	Symbol on display	Description
4		Internet connection/Network connection
		Signal strength
		USB connection active.
5	11:07	Current set time of the device.
6	02.01.2020	Current date.

8.3 Display information



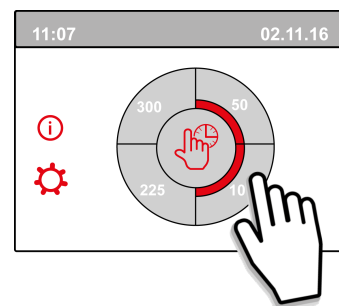
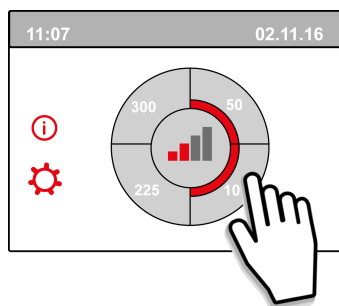
Warning

Incorrect settings can seriously disrupt the proper functioning of the appliance!

- When no keys are operated or when no deviating situation has developed (such as fault message or filter message) the display light will switch off two minutes after the last key has been operated.
- When there is a filter message or a fault in the appliance, the display light will be on permanently until the fault has been solved or the filters have been cleaned or replaced and the filter message has been reset.
- Pressing the Home button brings you back to the main screen from any particular menu.
- Pressing the return button takes you back 1 step in the menu.
- Briefly press the display (shorter than 5 seconds) to switch on the display light without changing anything in the menu; the display lights up for 2 minutes.
- The display can be set as 'manual' switch by setting step number 15.8 to "yes"

The ventilation mode can be adjusted by pressing the corresponding quarters on the display.

- If the display is not set as the "manual" 4 position switch; the ventilation will only boost (flow 2 or 3) for 30 minutes - after which it will go back to it's prior flow (flow 1 or 0).
- If the display is set as "manual" 4 position switch; The appliance will keep running in the selected mode until another mode is chosen.



9 Brink Home Connecting instructions

Follow instructions below in given order to connect a Flair appliance to Brink Home:

1. Install PCB UWA-2E → [Installing PCB UWA-2E](#) -> page 34 .
2. Connect appliance to internet → [Connect appliance to internet](#) -> page 34 .
3. Registration Brink Home → [Create Brink Home account](#) -> page 37 .
4. Add appliance in Brink Home Portal → [Add appliance in Brink Home Portal](#) -> page 38 .

Consult the complete Brink Home manual in the download section on the Brink Climate Systems website as well.

Note

Connecting a appliance to Brink Home is only possible if the UWA-2E is installed and connected.

Note

To access the Brink Home portal and Brink Home app, you must register an account.

Note

The screens shown may differ depending on the user's brand and type of communication device (phone/tablet/laptop).

Note

This manual applies to communication devices with Android, Windows and Apple operating systems.

Note

Make sure the installed PCB UWA-2E is within Wi-Fi range when internet connection needs to be established via Wi-Fi.

Note

When a filter notification or fault message is active, a connection to the Internet can still be established.

Note

If the power to the appliance has been switched off and on again, the Wi-Fi connection to internet and the Brink Home Portal will automatically be re-established.

Note

Adding installations to your user account can only be done in the portal, not in the app.

Note

Note down created login details and passwords.

9.1 Installing PCB UWA-2E

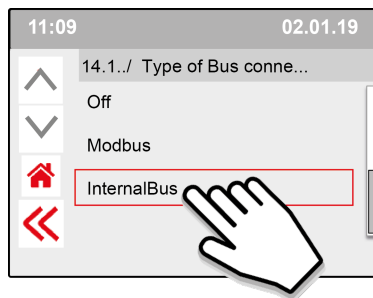
Please consult the UWA-2E manual in the download section of the Brink website for installing and connecting a (Plus) PCB UWA-2E to the Flair appliance.

9.2 Connect appliance to internet

When the appliance and the UWA-2E have been completely installed, switch on the power and adjust settings as described below to connect the appliance to internet.

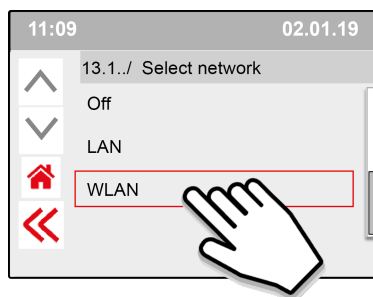
Settings can be changed through the display on the appliance, enter the settings menu by pressing the gear.

- 1 Go to menu 14.1 and set Type of Bus connection to InternalBus.



Note
Press << to confirm

- 2 Go to menu 13.1 and set type of connection WLAN(Wi-Fi) or LAN.

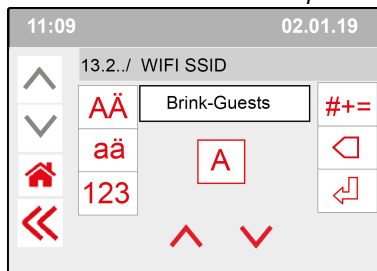


Note
Press << to confirm

WLAN (Wi-Fi)



Go to menu 13.2 and enter SSID (Wi-Fi network)
(Brink-Guests is used as example here)



Note
Press << to confirm

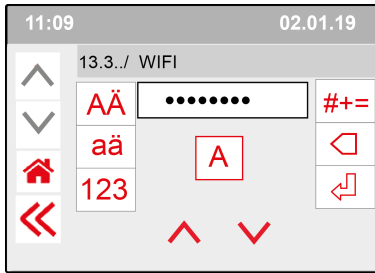
LAN



Go directly to step 3:
"Enter Brink Home password and confirm.."



Go to menu 13.3 and then enter Wi-Fi password



Note

Press << to confirm

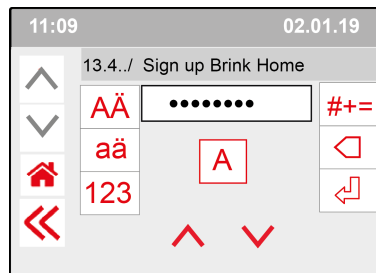
Wi-Fi specifications

- 802.11 b/g/n/e/i
- 802.11 n (2.4 GHz)
- Wi-Fi Protected Access (WPA)/WPA2/WPA2-Enterprise/Wi-Fi Protected Setup (WPS)

3 Go to menu 13.4 and create and enter a Brink Home password.

Password requirements:

At least 8 characters, with at least one lower-case and one upper-case letter as well as one number or special character.

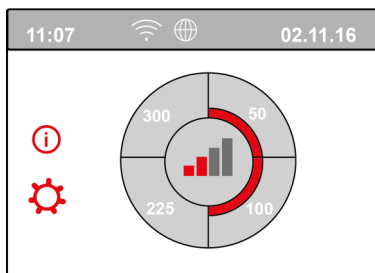


Note

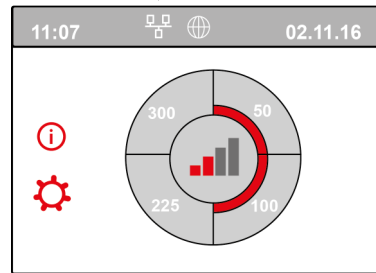
Press << to confirm

4 Check the connection in Main menu (could take a couple of minutes).

Successful WLAN (Wi-Fi) connection



Successful LAN connection



5 Create a Brink Home account at www.Brink-Home.com, see → [Create Brink Home account](#) -> page 37 .

9.3 Create Brink Home account



Note

The password of your Brink Home user account is not the same as the password of the appliance.



Note

Write down created passwords.

Follow steps below to create a Brink Home account.

1. Go to www.brink-home.com
2. Select: "register now".
3. Enter your e-mail address twice .
4. Select the desired language.
5. Choose a password you want to use for Brink Home and enter this twice Write down the password to remember it as well.
6. Accept the Terms and conditions and the Privacy statement.
7. Confirm the input with "Send Registration".
8. A confirmation e-mail is sent to the e-mail address you registered with.
9. Follow the instructions of this confirmation e-mail.
10. You can now log in with your e-mail address and created password..

BRINK
Brink Home

Email

Password

☐ Remember login
If you agree, a cookie will be stored on your device. That way, you won't be prompted to log in as often. Do not use this function on public devices.

LOGIN

REGISTER NOW

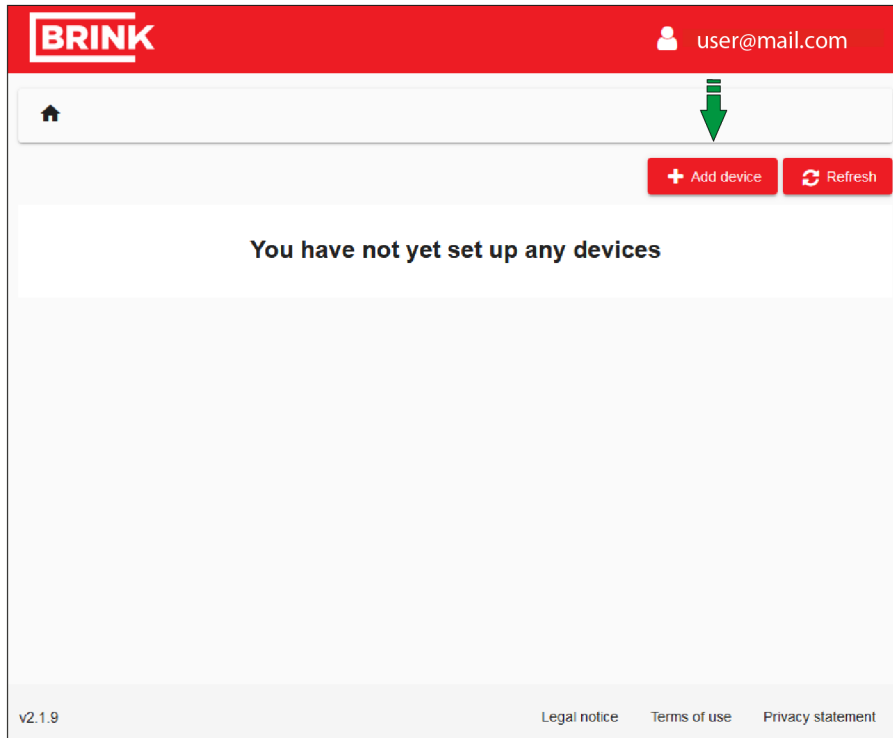
FORGOT PASSWORD?

[LEGAL NOTICE](#)
[TERMS OF USE](#)
[PRIVACY STATEMENT](#)

9.4 Add appliance in Brink Home Portal

Make sure the appliance is connected to internet and registered in Brink Home → [Connect appliance to internet](#) → page 34 and that a user account is created in the Brink Home portal → [Create Brink Home account](#) → page 37 .

1. Log in to the Brink Home portal (www.brink-home.com)
2. Select "Add system"



3. Enter the serial number of the appliance (enter the 12 numbers only).
4. Enter the password that was created at step 3 in Set up UWA-2E → -> page 35 .
5. Click "Add system" (The tile will become red after entering the serial number and password).

A screenshot of the 'Add system' form. The form has a title 'Add system'. Below the title, there is a 'Serial number' field with the text 'example' and a character count '7 / 50'. Below the serial number field, there is a 'Password' field with a red border and a red 'x' icon. At the bottom of the form, there are two buttons: 'Cancel' and 'Add system'.

6. The appliance is now shown in the system list.
7. The appliance can now be controlled in the Brink Home portal and Brink Home app.

10 Setting to work

10.1 Switching appliance on and off



Danger

Disconnect the power supply when working on the appliance.

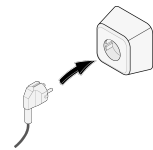


Note

If the appliance has been without power for more than approx. 1 week, language, time and date in setting menu has to be set again.

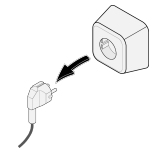
Switching on:

1. Connect the 230 V. power plug to a (powered) wall socket.
2. Display lights up and the software version is shown in display.
3. The appliance will then operate immediately after this, according to the setting of the multi-position switch. If no multi-position switch is connected then the appliance operates always in mode 1.



Switching off:


1. Disconnect the appliance's 230V power plug from the wall socket; there is no power on the unit anymore
2. The display is off and not showing anything.



10.2 Setting the air flow

Good ventilation contributes to healthy air in the home, optimal comfort and the proper functioning of the installation.

The air flows of the appliance Flair 450 have been set in the factory as follows 75, 100, 200 and 300 m³/h; the air flows of the appliance Flair 600 have been set in the factory as follows 100, 150, 300 and 500 m³/h. The performance and the energy consumption of the appliance depend on the pressure drop in the duct system, as well as on the filter resistance. If these conditions are not complied with, the air flow rate of the higher mode will automatically be adjusted.

Changes can be carried out in the settings menu .

Go in the settings menu to steps 1.2 to 1.4 to adjust the air flow.

Please note!

The highest demanded ventilation mode has priority. If the external multiple switch is set to mode 3, then the ventilation mode cannot be adjusted to a lower mode on the main screen.

An exception to this is ventilator mode 0. If mode 0 is chosen on the display: control from other switches, sensors, etc. is not possible.

For connected CO₂ sensors the air flow will be steplessly controlled between mode 1 and 3 depending on the measured PPM values: for a connected humidity sensor the air flow will be switched to mode 3 when this is switched on.

10.3 Other settings for installer

In addition to the air flow, it is also possible to change other settings of the appliance; for an overview of the settings of a standard appliance (→ [Setting values standard appliance](#) -> page 67, [Settings](#) -> page 67) and appliance with (Plus) pcb (→ [Setting values appliance with \(Plus\) pcb](#) -> page 70).

Changes can be carried out in the settings menu.



Warning

Incorrect settings affect the performance of the appliance.

Changes of settings not described in this manual require consultation with Brink Climate Systems B.V.

10.4 Factory settings



Warning

After resetting to the factory setting, step number 14.1 must be reset to internal Bus in the settings menu!



Warning

Resetting the device to factory settings means that the additional circuit board must be reconnected to the basic device.



Note

A factory reset does not reset the filter message.

It is possible to reset the appliance back to factory settings, with this action all step numbers will be reset back to factory settings and all messages and fault codes will be deleted from the service menu.

Return to factory settings:

1. Open the settings menu'.
2. Scroll down to and select appliance settings → menu 15
3. Scroll down to and select factory reset → menu 9
4. Select "yes" and confirm by pressing back.

11 Fault

11.1 Fault analysis



Danger

Unplug the power supply when working on the appliance.



Note

A locked error cannot be cleared by resetting the appliance's power supply; the error must be solved first.

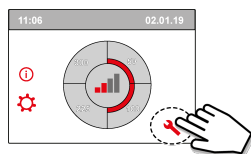
When the appliance detects a fault, this will be indicated on the display by a spanner symbol, possibly with a fault code.

11.2 Fault types

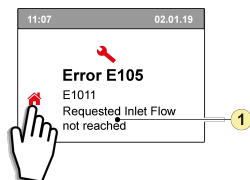
- Non-locking fault: key symbol visible at the bottom of the appliance display.
- Locking fault: fault code continuously visible in display, menu is blocked.

Non-locking fault

When the appliance detects a non-locking fault, it will keep running (limitedly). The (permanently lighted) display will show the fault symbol (key). Press the fault symbol for an explanation / solution to the fault.



The screen can be left by pressing the "Home" button.
If a fault cannot be solved, please contact the installer

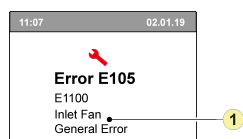


1. Requested supply airflow rate not reached.

Locking fault

When a locking fault is detected the appliance will switch off. The settings and information menu's will also be switched off.

The (permanently lighted) display shows the fault symbol (spanner) together with a relevant fault code. The red LED on the multiple-position switch (if applicable) will start flashing. The appliance remains in this fault mode until the fault is resolved. After resolving the fault the appliance will reset itself (Auto reset) and start up again; The display will be showing the actual running status again. Contact the installer when a locking fault occurs.



1. Supply fan defective.

11.3 Fault Codes

In the table below the locking faults are marked with a * after the fault number.

The display shows a brief explanation of this fault code.

If there is reference to the "Standby" mode of the appliance, then both fans are shut down but there is still something shown on the display of the appliance.

Fault code	Sub code	Cause	Appliance action	User action
E190	E1000	Self-test not good	No action	
E152 *	E1001 *	Flash memory faulty	Stop appliance if possible	Replace basic pcb UWA2-B
E153	E1002	EEPROM memory defective	Appliance goes to factory setting; fan setting 2	Replace basic pcb UWA2-B
E105	E1011	Requested supply flow rate is not achieved	None	Clean or replace filters Check that ducts are not blocked
E104	E1012	Requested exhaust flow rate is not achieved	None	Clean or replace filters Check that ducts are not blocked
E000 *	E1013 *	Temperature of outside air too high	Appliance goes to standby	Depending on the situation: In the event of warm weather and a supply directly below the tiles, wait until the air has cooled or install a roof sleeve instead of duct under the tiles In the event of cold weather or when there is no air from below the tiles, take the voltage from the appliance and replace air temperature sensor (NTC)
E105 *	E1100 *	Supply fan defective; general message	Appliance goes to standby	Replace supply fan Fault is reset automatically when voltage is put back on appliance.
E104 *	E1120 *	Exhaust fan defective; general fault message	Appliance goes to standby	Replace exhaust fan Fault is reset automatically when voltage is put back on appliance.
E103	E1200	Bypass defective; general fault message	None	Check wiring Replace bypass or wiring harness
E106 *	E1300 *	Sensor NTC1 defective; general fault	Appliance goes to standby	Check wiring Replace NTC sensor or replace wiring
E111	E1400	RHT sensor 1 defective; general message/ USB transceiver removed	No humidity control	Check wiring Replace RHT sensor or replace wiring/ Insert USB transceiver
E113	E1600	Internal preheater defective; general fault message	Frost protection goes to imbalance mode	Check fuses Check wiring; replace if damaged and replace otherwise the internal preheater Fault is automatically reset when the voltage is put back on the appliance.
E114	E1500	Multi-position switch defective; general fault	Appliance goes to mode 1	Replace multi-position switch
E130	E1800	Relay output 1 defective; general fault	Signal output not available	Disconnect power plug Replace UWA2-B pcb Fault is automatically reset when voltage is again put back on appliance.
E155	E2000	Touchscreen fault; general fault message	Fault codes only visible when using service tool	Check wiring to touchscreen; replace wiring if damaged; replace touchscreen, if fault still occurs replace UWA2-B Fault is automatically reset when solved and power is put back on appliance

Fault code	Sub code	Cause	Appliance action	User action
E120	E2100	EBus fault; general fault message	Brink Air Control and other accessories connected to eBus do not work. Appliance is working	Check wiring to accessories/ Brink Air Control Check accessories/Brink Air Control and replace if defective If there is still a fault after this: Take voltage from appliance and replace basic pcb UWA2-B
E121	E2200	internal Bus general fault message	Brink Air Control and other accessories do not work. Appliance is working	Check wiring to accessories/ Brink Air Control Check accessories/ Brink Air Control and replace if defective If there is still a fault after this: Take voltage from appliance and replace basic pcb UWA2-B
E122	E2300	Internal ModBus fault; general fault message	Appliance goes to standby	Check wiring and connections to UWA2-B and the fans Replace cable harness if damaged; Then exchange UWA2B, exhaust fan and supply fan
E123	E2400	External ModBus fault; general fault message	Operation via Modbus does not work	Check cabling of accessories; replace if damaged Check accessories; replace if defective If fault still occurs: Take voltage from appliance and replace UWA2-B
E124	E2500	USB port general fault message	USB interface not usable	Replace USB accessory If the fault is not remedied after this: take the voltage from the appliance and replace UWA2-B
E170	E2600	One or more CO ₂ sensor(en) defective; general fault message/ USB transceiver removed	Appliance is working; no CO ₂ regulation	Check cabling and CO ₂ sensor(s); replace if damaged Check CO ₂ sensor(s); replace if defective/ Insert USB transceiver
E171	E2700	External preheater or fuse defective; general fault message	No preheater / comfort control responds differently	Disconnect preheater and check preheater fuse; replace fuse if defective If fault does not clear: - Replace external preheater - Put voltage back on appliance - Fault has automatically been reset
E172	E2800	External postheater or fuse defective; general fault message	No postheater / comfort control responds differently	Disconnect postheater and check postheater fuse; replace fuse if defective If fault does not clear: - Replace external postheater - Put voltage back on appliance - Fault has automatically been reset

12 Maintenance

12.1 Maintenance general

To ensure correct functioning of the appliance it is important to regularly perform maintenance.

A well maintained appliance has a positive influence on air quality, efficiency, noise level and life span.

Brink Climate Systems B.V. recommends concluding a maintenance contract for the appliance with your installer.

12.2 Maintenance intervals

Required maintenance items of the appliance are indicated below.

Please contact a qualified company to perform installer maintenance.

Shorten the intervals when the appliance is very polluted during maintenance.

USER MAINTENANCE		
ITEM	ACTION	INTERVAL
Filters*	Cleaning	3 months
	Replacing	6 months

* The filter message on the appliance (red LED ON) indicates if filters need to be cleaned or replaced. Clean filters only once, replace them when a second cleaning is needed.

INSTALLER MAINTENANCE		
ITEM	ACTION	INTERVAL
Air inlets/grilles**	Cleaning	12 months
Appliance	Check for anomalies and noises	12 months
Filters ***	Replace filters	12 months
Enthalpy heat exchanger	Check and clean heat exchanger	12 months
Appliance internal	check and clean appliance internals	36 months
Fans	Check and clean fans	36 months
Bypass valve + motor	Check functioning and clean bypass	36 months
Preheater	Check functioning and clean preheater	36 months
Appliance housing	Check for anomalies and clean housing internally	48 months
Air ducts**	Inspect and clean supply ducts	72 months
	Inspect and clean extraction ducts	96 months

** Consult with the supplier of the air inlets/grilles and air ducts for required cleaning procedures.

*** Consult with end-user when the filters were last replaced.

12.3 User maintenance



Danger

Disconnect the power supply when working on the appliance.



Warning

Be careful when using compressed air.



Warning

Never run the appliance without filters.



Warning

Use a pH neutral detergent when cleaning parts and components.



Note

Note and mark the location and position of components before removal and reinstall exactly the same.

12.3.1 Cleaning filters

The required maintenance of the appliance to be carried out by the user is limited to periodic cleaning and replacing the filters.

Filters need to be cleaned when the filter symbol is indicated on the appliance's display or when the red LED on the Multi-position switch (if installed) is on.

The filters should be replaced every half year.

Filters can be vacuumed once, when filter light comes on a second time, the filters should be replaced.



Warning

Never switch on the appliance without filters!



Note

The filter wizard cannot be interrupted.

Cleaning and replacing filters when the filter message is active:

1. Press and hold the filter symbol on the appliances display for longer than 3 seconds to open the filter wizard.
2. Follow the instructions on the display to clean and/or replace the filters.
3. Close the filter wizard by pressing the "Home" button when all the instructions on the menu have been followed and confirmed.
4. The display returns to the main screen; the filter message is reset and the filter message disappears.

Cleaning and replacing filters when the filter message is not active:

- Go to step number 4.2 in the settings menu to manually start the filter wizard and follow the instructions.

Direct reset of Filter message timer:

- Go to step number 4.3 in the settings menu to reset the filter timer directly without opening the filter wizard.

12.4 Installer maintenance



Danger

Disconnect the power supply when working on the appliance.



Warning

Be careful when using compressed air.



Warning

Never run the appliance without filters.



Warning

Use a pH neutral detergent when cleaning parts and components.



Note

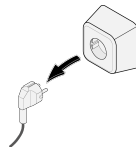
Be careful when removing the heat exchanger. There may be water inside the heat exchanger.

12.4.1 Removing and installing components

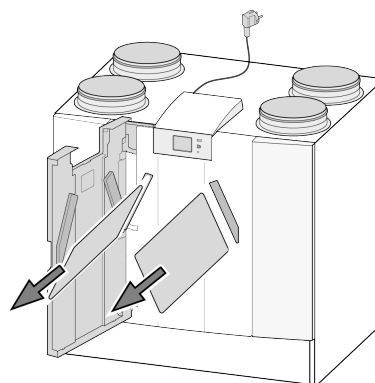
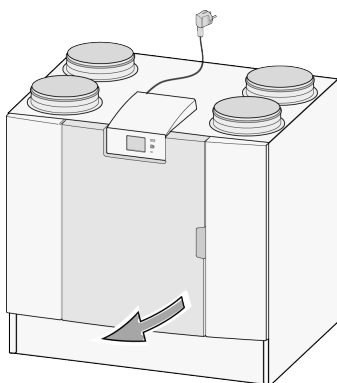
Before removing parts out of the appliance:

- Run the appliance at full speed for 5 minutes to inspect for noises and/or vibrations.
- Test the functioning of the bypass.
- Test the functioning of the preheater.

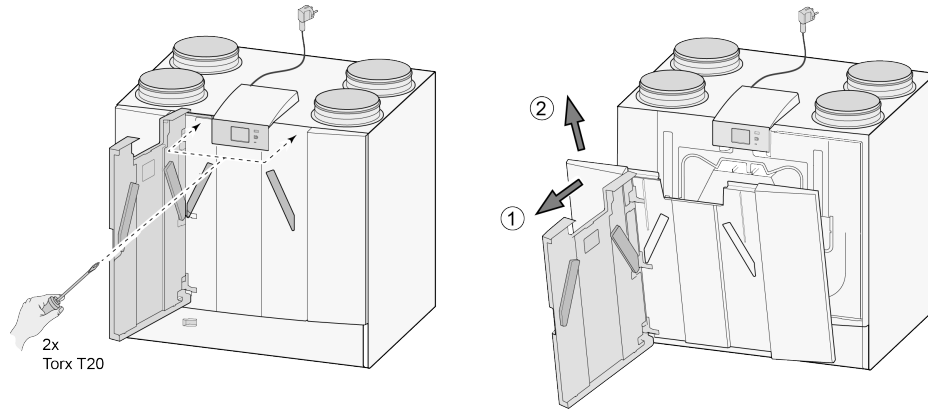
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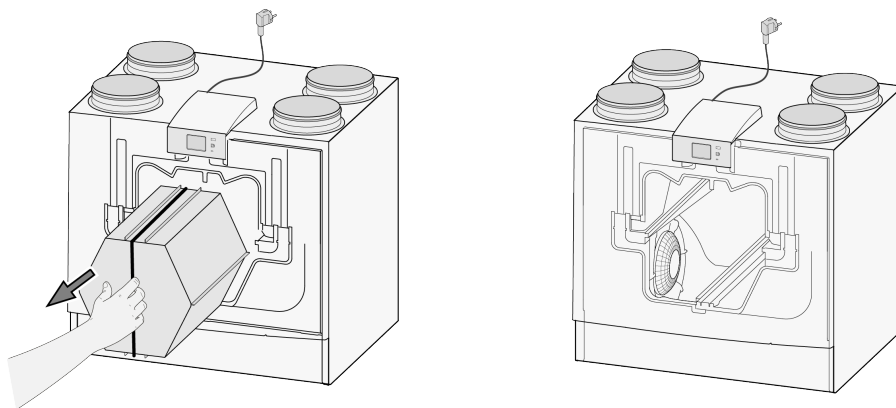
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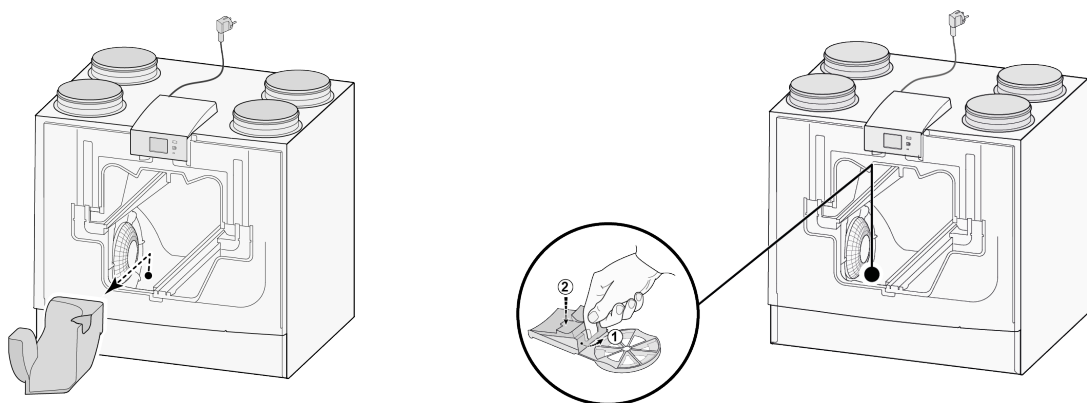
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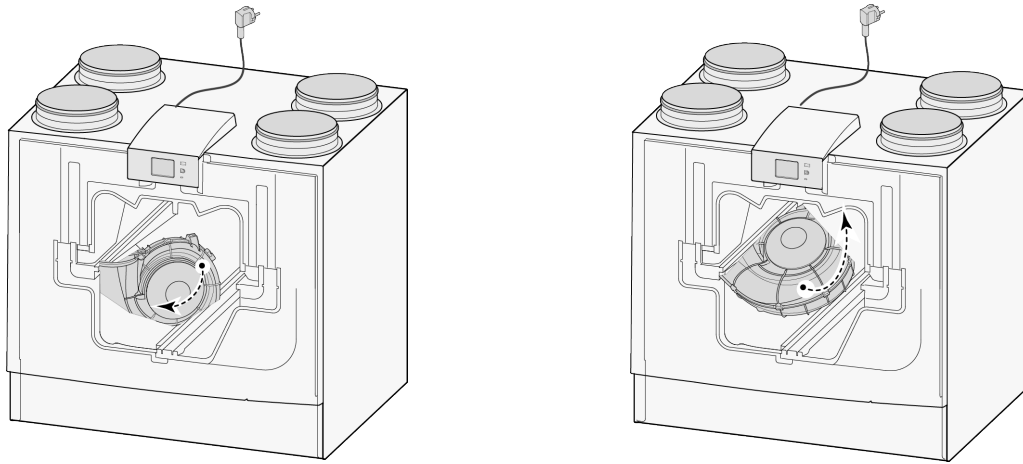
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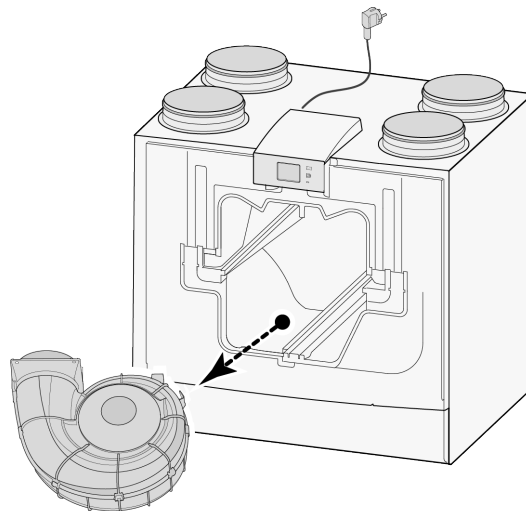
5



6



7



When all maintenance works on the internal parts have been completed:

1. Carefully install parts back into the appliance.
 - Use the component removing instructions in reversed order.
2. Connect the power supply.
3. Verify the correct functioning of the appliance in various settings.

12.4.2 Appliance internal maintenance

1. Remove all internal parts of the appliance (→ [Removing and installing components](#) -> page 46).
2. Clean the internal housing of the appliance with a soft brush and a vacuum cleaner to remove all dust and pollution.
3. Check for damages or other anomalies inside the appliance.

12.4.3 Fan maintenance



Danger

Dirt accumulation on the motor housing of the fan can cause overheating of the fanmotor.



Note

Pollution on the impeller can cause vibration that will shorten the fans life span.

1. Remove the fans out of the appliance (→ [Removing and installing components](#) -> page 46).
2. Carefully clean both fans with a soft brush and vacuum cleaner and/or with compressed air.
3. Inspect the fans for:
 - Pollution
 - Damages (blades/housing/anemometer)
 - Noises
 - Vibrations
 - Corrosion

12.4.4 Heat exchanger maintenance



Warning

Use a pH neutral detergent when cleaning parts and components.



Warning

Do not use a high pressure water or air cleaner - it could damage the membranes of the heat exchanger.



Caution

Enthalpy plate heat exchangers must be cleaned with special caution to avoid damage to the membranes.

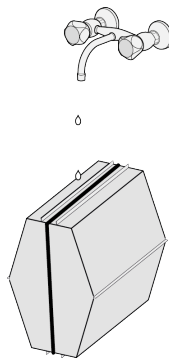


Caution

Clean het heat exchanger against the airflow direction to prevent pollution entering the heat exchanger.

The Enthalpy heat exchanger should be checked regularly for dirt and be cleaned if necessary.
At least once a year the heat exchanger must be cleaned in order to maintain its latent effectiveness.

1. Remove the heat exchanger → [Removing and installing components](#) -> page 46 .
2. Clean the heat exchanger area inside the appliance.
3. Clean the outside of the heat exchanger with a soft brush and vacuum cleaner to remove dust and pollution.
4. Moderate contamination can be dealt with by rinsing the exchanger carefully with warm tap water (max. 60°C).
If necessary a mild detergent could be added - we recommend commercially available mild textile membrane detergents.
5. Carefully place the exchanger in a position where the water can run out naturally, do not shake or force the water out.
6. Change the position so that all water can flow out.
7. Allow the exchanger to air dry until it is completely dry.
8. Thoroughly rinse the heat exchanger with water after cleaning.
9. Let the heat exchanger dry as much as possible before reinstalling.



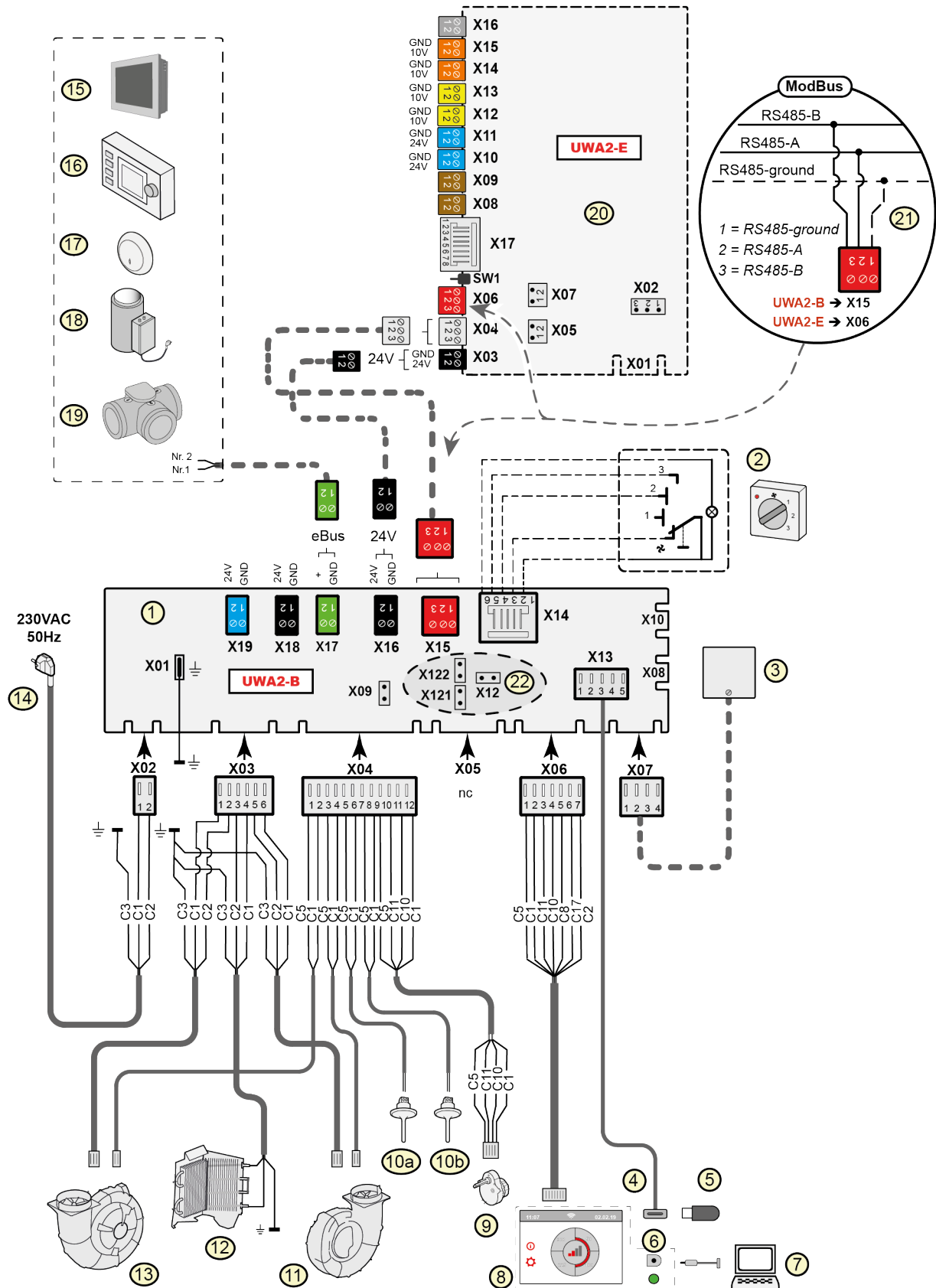
12.4.5 Bypass maintenance

1. Remove all internal parts of the appliance (→ [Removing and installing components](#) -> page 46).
2. Clean the bypass with a soft brush and a vacuum cleaner to remove all dust and pollution.
3. Check for damages or other anomalies.

12.4.6 Preheater maintenance

1. Remove all internal parts of the appliance → [Removing and installing components](#) -> page 46
2. Clean the preheater with a soft brush and a vacuum cleaner to remove all dust and pollution.
3. Check for damages or other anomalies.

13 Electrical diagram



1	=	Basic pcb
2	=	Multiple switch (option)
3	=	Humidity sensor (option)
4	=	USB connector
5	=	USB stick for updating software (not supplied with appliance)
6	=	Service connector
7	=	Laptop with installed Brink service tool (not supplied)
8	=	Touchscreen on appliance
9	=	Valve motor bypass valve
10a	=	Air temperature sensor NTC1
10b	=	Air temperature sensor NTC2
11	=	Exhaust fan*
12	=	Internal preheater incl. maximum security
13	=	Supply fan*
14	=	Power supply 230V 50Hz
15	=	Brink <Touch_Control (option)
16	=	Brink Air Control (option)
17	=	CO ₂ sensor eBus (option)
18	=	Heater eBus (option)
19	=	Not applicable for Flair 450/600 Enthalpy
20	=	(Plus) pcb (option)
21	=	Connection on ModBus system (option)
22	=	X12 is Jumper terminating resistance (120 Ω) ModBus (remove if terminating resistance has already been placed in ModBus system). With Modbus application remove the jumpers X121 & X122; when using internal Bus place the jumpers X12, X121 & X122; remove Jumper X07 from (Plus) pcb when a (Plus) pcb is applied.
<p>* The control cables of the fans can be switched with no problem; when the power is switched on the appliance determines itself which is the supply and exhaust fan! When the appliance detects another fan (for example when a fan is replaced during service activities), then a “wizard” starts up automatically; follow the instructions on the display for the correct connection of the fan cables. <i>The position of the fans in this diagram is for illustration purposes only. Installation position depends on the type of appliance.</i></p>		



Important!

When installing and maintaining the appliance (see →), check that no dust or dirt has accumulated on the preheater! Clean these well during maintenance.

Basic pcb

X15 = internal Bus/ModBus

X16 = 24V

x17 = eBus

X18 = 24V (max 5VA)

X19 = Signal output

(Plus) pcb

X03 = 24V

X04 = internal Bus

X06 = ModBus

X08 = Contact input 1

X09 = Contact input 2

X10 = Relais output 1

X11 = Relais output 2

X12 = Analog input (0 to 10 V)

X13 = Analog input (0 or 10 V)

X14 = Analog output (0 to 10 V)

X15 = Analog output (0 or 10 V)

X16 = NTC 10K

X17 = LAN

Wire colours

C1 = brown

C2 = blue

C3 = green/yellow

C5 = white

C8 = grey

C10 = yellow

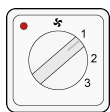
C11 = green

C17 = purple

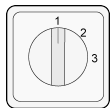
14 Electrical connections accessories

14.1 Connecting multi-position switch

A multi-position switch must be connected to the modular connector type X14 on the main PCB. This modular connector X14 is accessible from the rear of the PCB at the top of the appliance. Depending on the type of multi-position switch that is connected, either an RJ11 or RJ12 plug needs to be used.



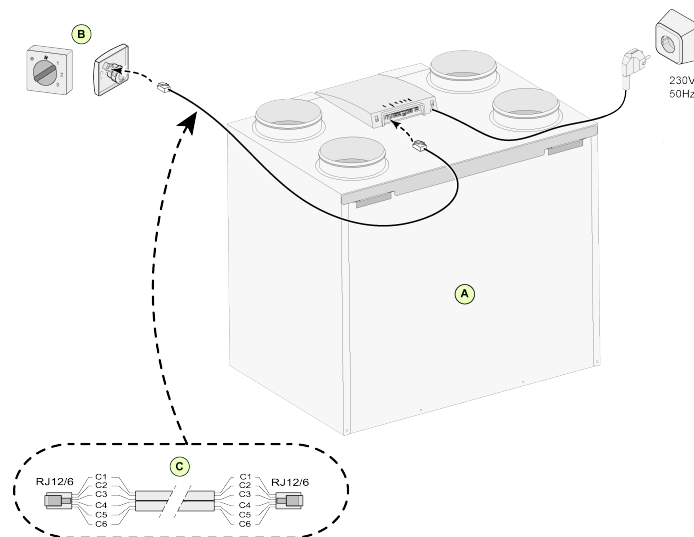
4-way switch with filter indication (best option): always install an RJ12 connector in combination with a 6-core modular cable.



3-way switch without filter indication: always install an RJ11 connector in combination with a 4-core modular cable.

14.1.1 Connecting multi-position switch with filter indication

Connect a 4-position switch with filter indication as described below.
The connected switch will work immediately when connected, no parameter changes are required.



A = Flair 4-0 appliance (Example)
B = 4-way switch with filter indication
C = Modular cable



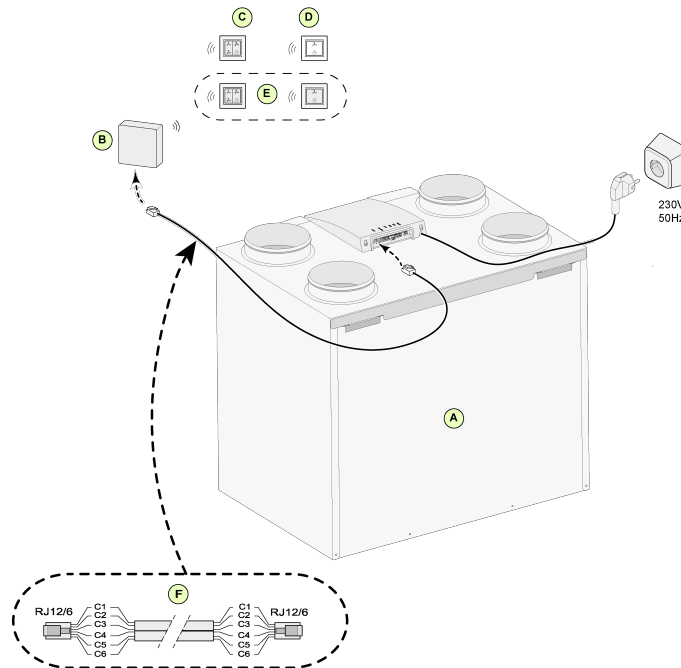
Note

For the modular cable that is used, the “tab” of both modular connectors must be mounted facing the mark on the modular cable. Wire colors C1 - C6 may vary dependent on the type of modular cable used.

14.1.2 Connecting wireless remote control (without filter indication)

Connect a wireless remote control without filter indication as described below.

The connected switch will work immediately when connected, no Flair parameter changes are required.



A = Flair 4-0 appliance (example)

B = Receiver for wireless remote control

C = Transmitter with 4 settings (for example kitchen)

D = Transmitter with 2 settings (for example bathroom)

E = Any additional 2- or 4-settings transmitters (maximum of 6 transmitters can be signed on to 1 receiver)

F = Modular cable



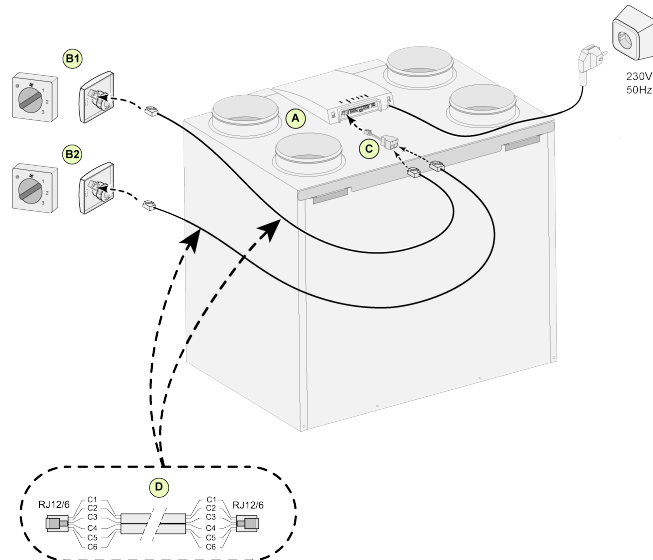
Note

For the modular cable that is used, the “tab” of both modular connectors must be mounted facing the mark on the modular cable. Wire colors C1 - C6 may vary dependent on the type of modular cable used.

14.1.3 Connecting extra multi-position switch with filter indication

Connect multiple 4-position switches with filter indication as described below.

Connected switches will work immediately when connected, no Flair Parameter changes are required.



A = Flair 4-0 appliance (example)

B1 = Multiple switch with filter indication

B2 = Extra multi switch with filter indication

C = Splitter

D = Modular cable



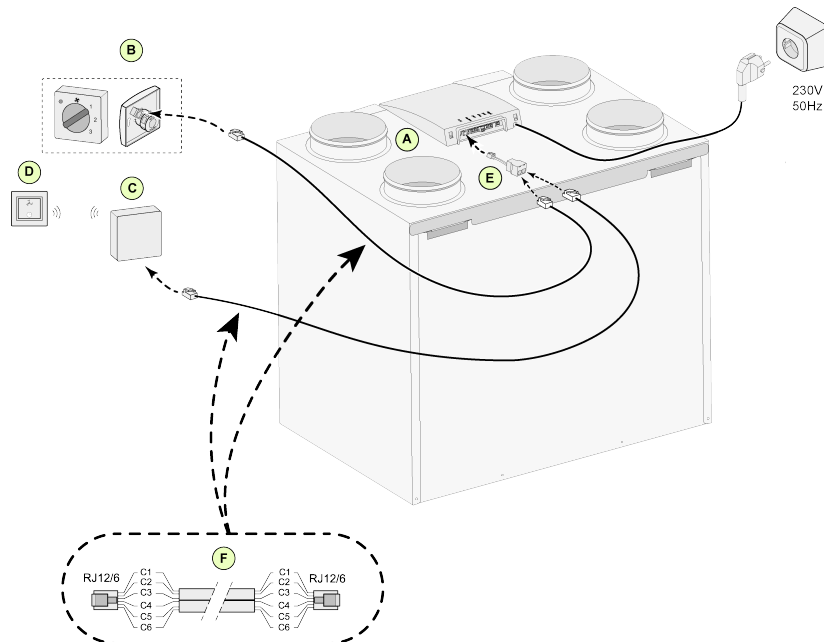
Note

For the modular cable that is used, the “tab” of both modular connectors must be mounted facing the mark on the modular cable. Wire colors C1 - C6 may vary dependent on the type of modular cable used.

14.1.4 Connecting extra multiple-position switch with filter indication

Connect a 4-position switch and remote control as described below.

Connected switches will work immediately when connected, no Flair Parameter changes are required.



A = Flair 4-0 appliance (example)

B = Multiple switch with filter indication

C = Receiver for wireless remote control

D = Transmitter with 2 settings

E = Splitter

F = Modular cable



Note

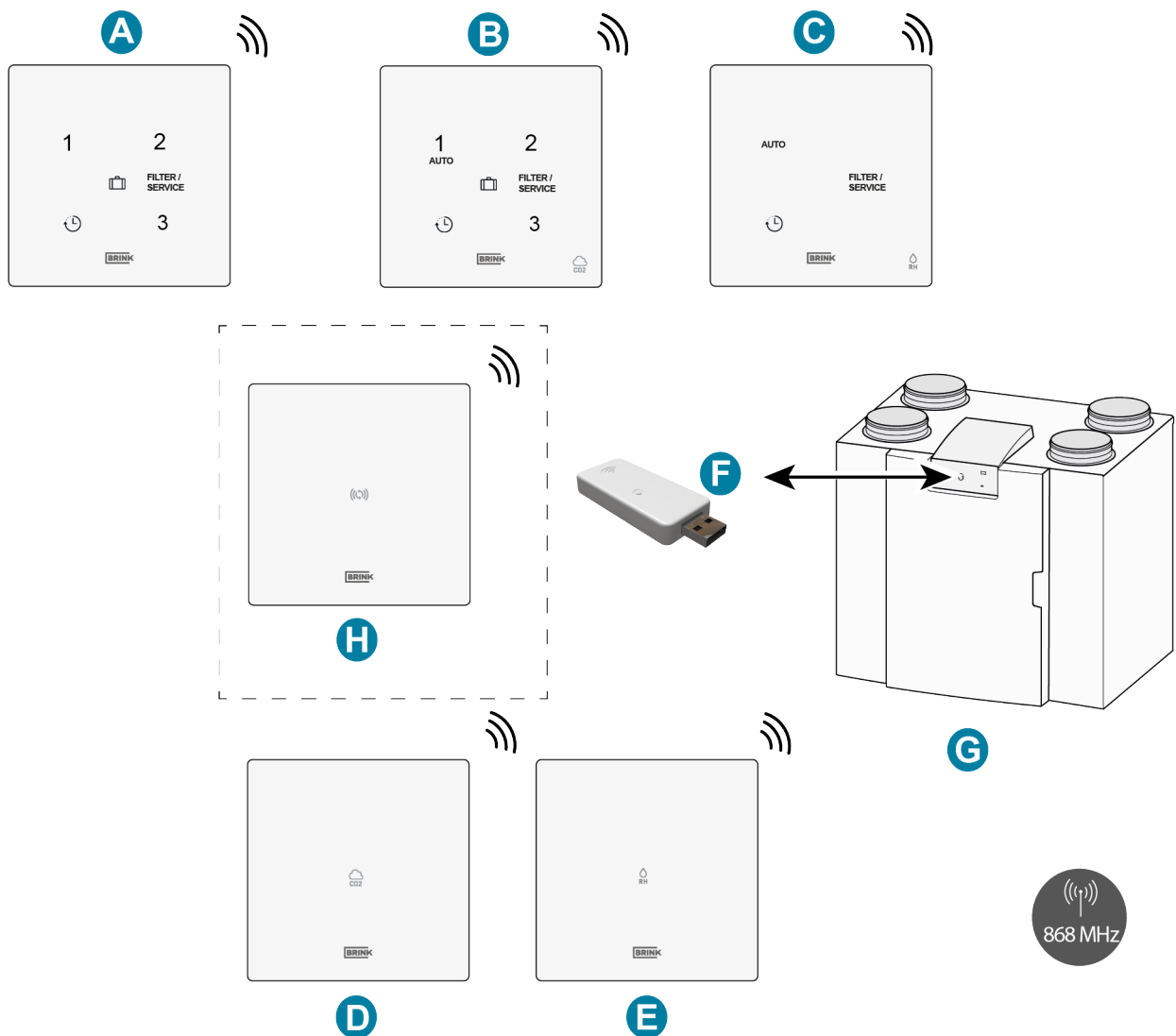
For the modular cable that is used, the “tab” of both modular connectors must be mounted facing the mark on the modular cable. Wire colors C1 - C6 may vary dependent on the type of modular cable used.

14.2 Connection wireless controllers & sensors

Brink offers a series of 5 remote controls/sensors (A-E) that can be connected to a heat recovery system (G) by means of a USB transmitter/receiver(F). An optional signal amplifier (H) is available as well.

The wireless remote control/sensor can only be used with a heat recovery system equipped with a USB connection and manufactured after July 2022.

For information regarding connecting, setting and operating wireless controller(s)/sensor(s), please consult the relevant manual on Brink Climate Systems B.V. website.



A = Wireless 3-position switch

B = Wireless CO₂ sensor with 3-position switch

C = Wireless RH sensor with boost function

D = Wireless CO₂ sensor

E = Wireless RH sensor

F = Wireless transmitter/receiver

G = Heat recovery appliance with USB connection (Flair as example)

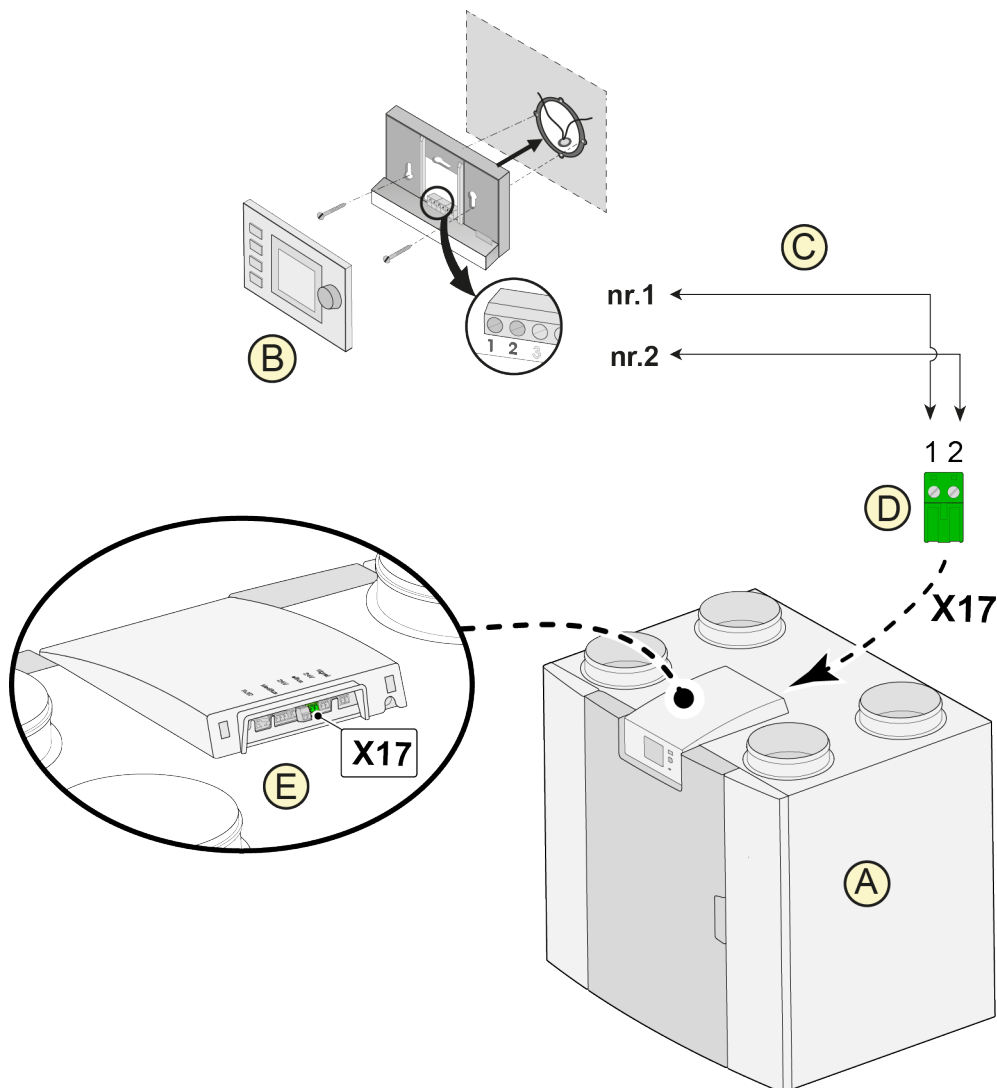
H = (Optional) Signal amplifier

14.3 Connecting Air Control

Note

The wire from Brink Air Control connector pin 1 goes into connector pin 2 on X17 and the wire from Brink Air Control connector pin2 goes into connector pin 1 on X17.

Connect a Brink Air Control as described below. Consult the Brink Air Control manual as well.
The Brink Air Control will work immediately when connected, no Flair Parameter changes are required.



A = Flair 4-0 appliance (example)

B = Air Control (option)

C = Two-core control cables

D = Green two-pole screw connector

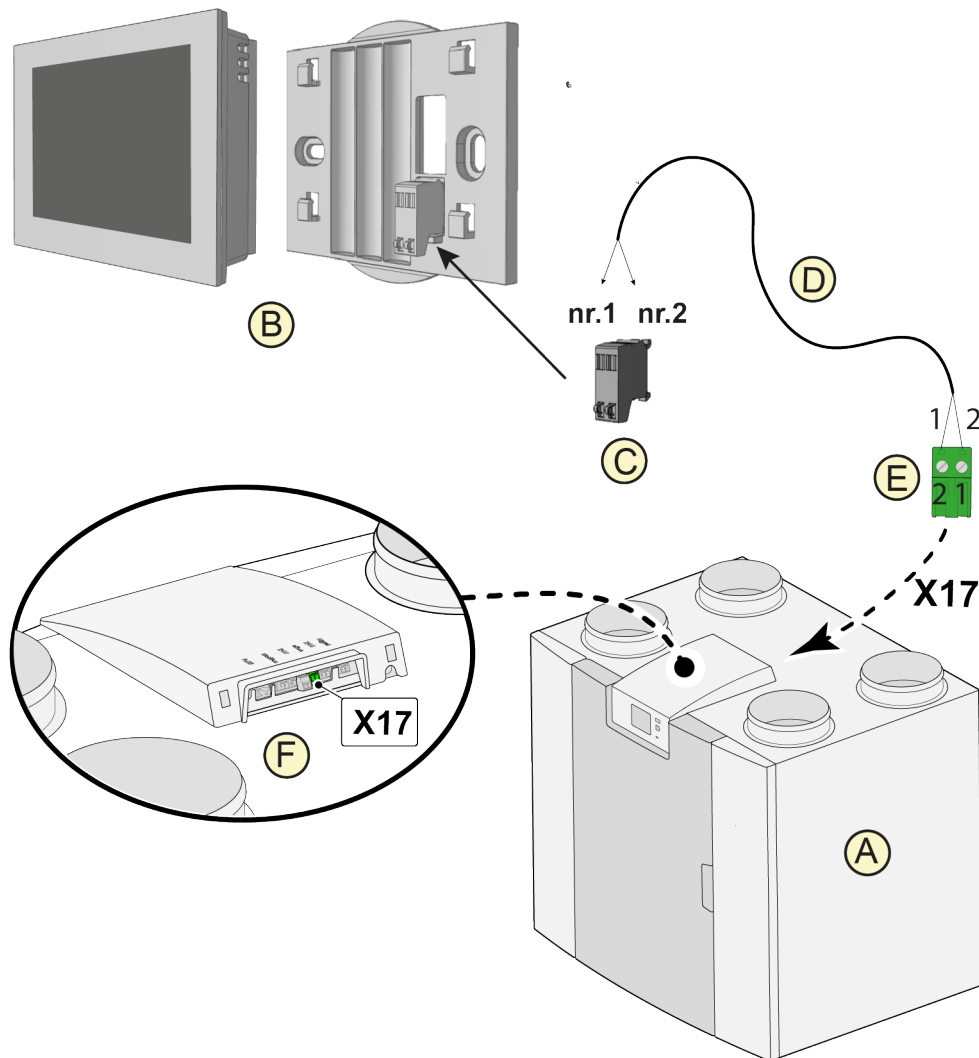
E = Position green eBus connector to rear of control

Note

The combined use of the 3 accessories: Air Control, additional preheater and postheater is not possible due to the voltage limit of the eBus system.

14.4 Connecting Touch Control

Connect a Brink Touch Control as described below. Consult the Brink Touch Control manual as well. The Brink Touch Control will work immediately when connected, no Flair Parameter changes are required.



- A = Flair 4-0 appliance (example)
- B = Touch Control (option)
- C = Touch Control connector
- D = Two-core control cables
- E = Green two-pole screw connector
- F = Position green eBus connector to rear of control



Note

The combined use of the 3 accessories: Touch Control, additional preheater and postheater is not possible due to the voltage limit of the eBus system.

14.5 Connecting humidity sensor

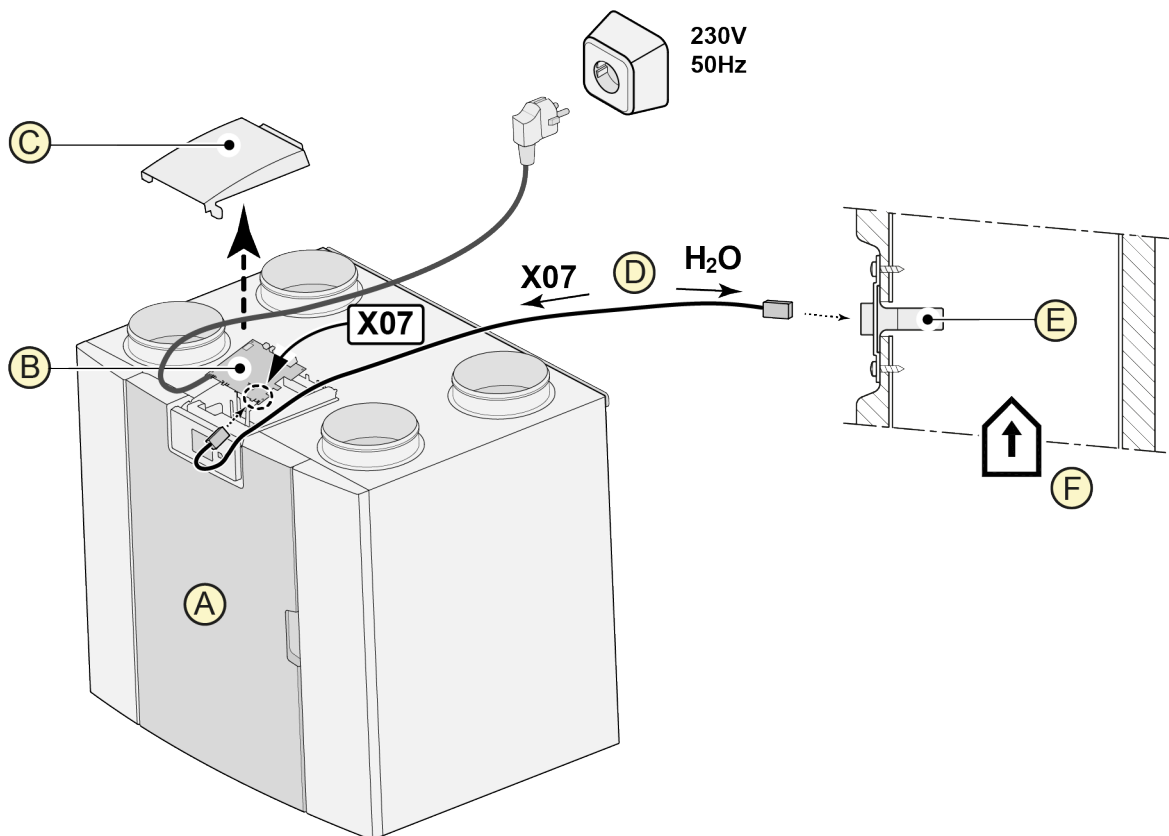


Danger

Disconnect the power supply when working on the appliance.

Connect a RH sensor as described below, consult the RH sensor manual as well.

To switch on and set the sensitivity of the humidity sensor, set Flair parameter 7.1 and 7.2 in the settings menu correctly.



A = Flair 4-0 appliance (example)

B = Basis pcb

C = Cover

D = RH sensor cable (supplied in RH sensor set)

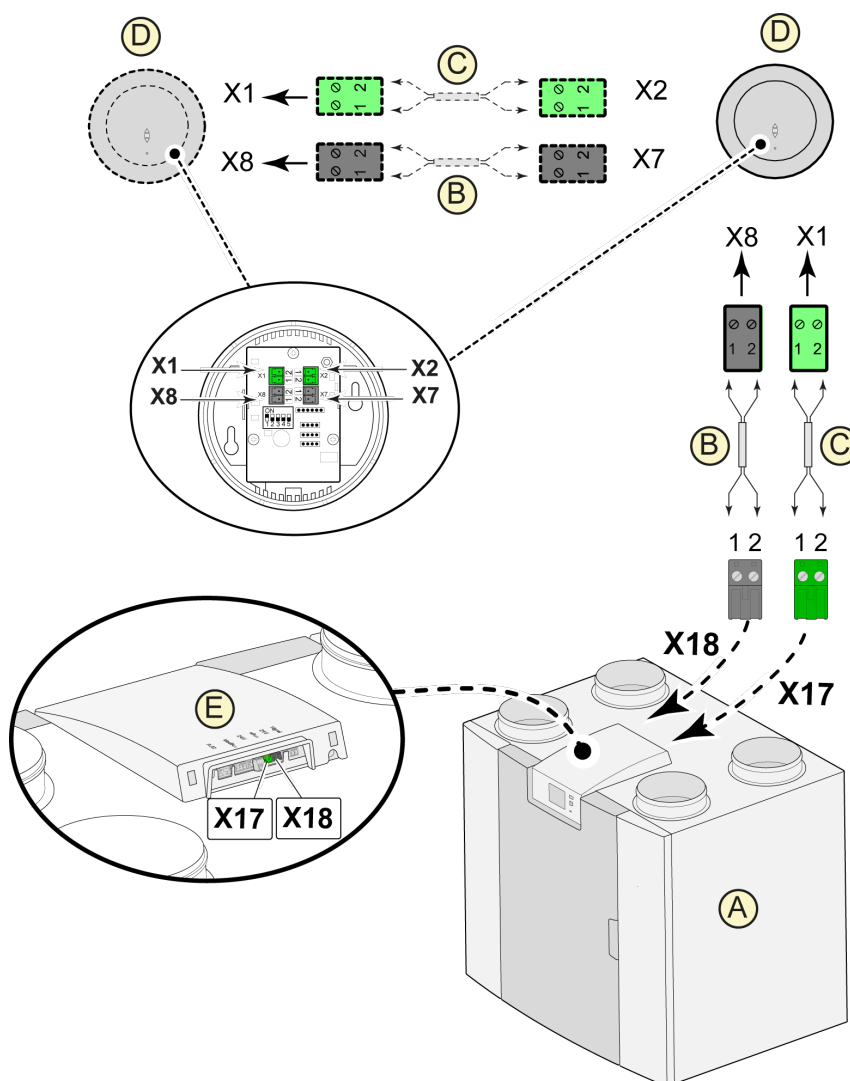
E = RH (humidity) sensor

F = Duct from dwelling

14.6 Connecting CO₂ sensor(s)

Connect CO₂ sensor(s) as indicated below. Consult the CO₂ sensor manual as well.

- A Maximum of 4 CO₂ sensors can be connected.
- Set DIP-switches correctly per connected CO₂ sensor.
- Parameter 6.1 is used to switch the CO₂ sensor(s) function in the appliance ON or OFF.
- If necessary, set the minimum and maximum PPM regulating values of each individual CO₂ sensor(s) following Flair parameters 6.2 to 6.9.



A = Flair 4-0 appliance

B = 2-pole control cable for 24V power supply (black connectors)

C = 2-core control cable for eBus connection (green connectors)

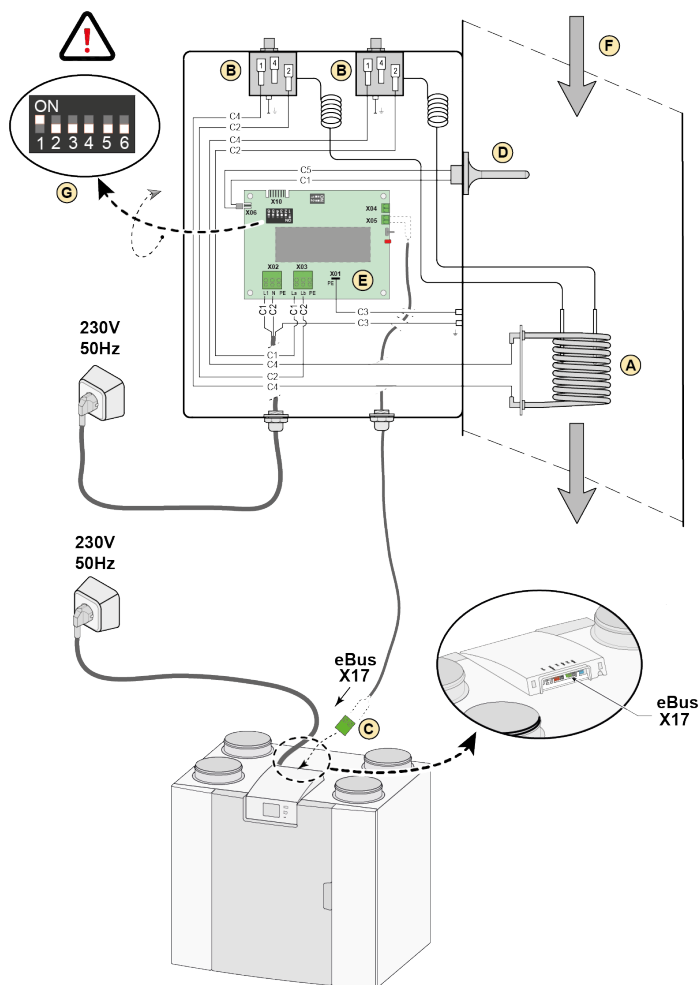
D = CO₂ sensor(s); connect a maximum of 4

E = Connection X17 (eBus) and X18 (24V) on Flair appliance

14.7 Connecting preheater

Connect a Preheater as described below. Consult the Preheater manual as well.

- Install the Preheater in the Outdoor air duct to the appliance.
- Connect the preheater signal wire to connector X17 on the appliance.
- Do not install a preheater upside down!
- Set the preheater DIP-switches (G) correctly .
- Set Flair parameter 5.1 correctly.
- Connect the preheater power plug to 230V after installation is complete.



A = Heating coil
B = Maximum safety with manual reset
C = 2-pole eBus connection X17 on Flair appliance
D = Temperature sensor
E = PCB UVP1
F = Airflow direction
G = Dipswitch setting Flair preheater

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

14.8 Connecting postheater

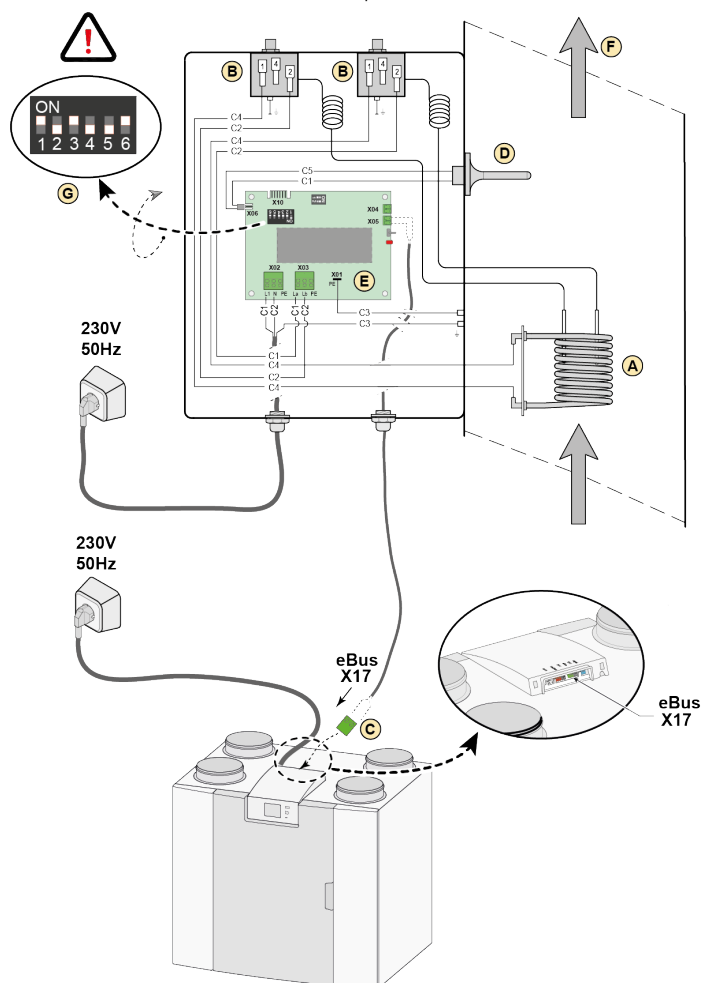


Danger

If a postheater is applied, set minimum 75 m³/h at parameter step 1.1 to prevent overheating.

Connect a postheater as described below. Consult the postheater manual as well.

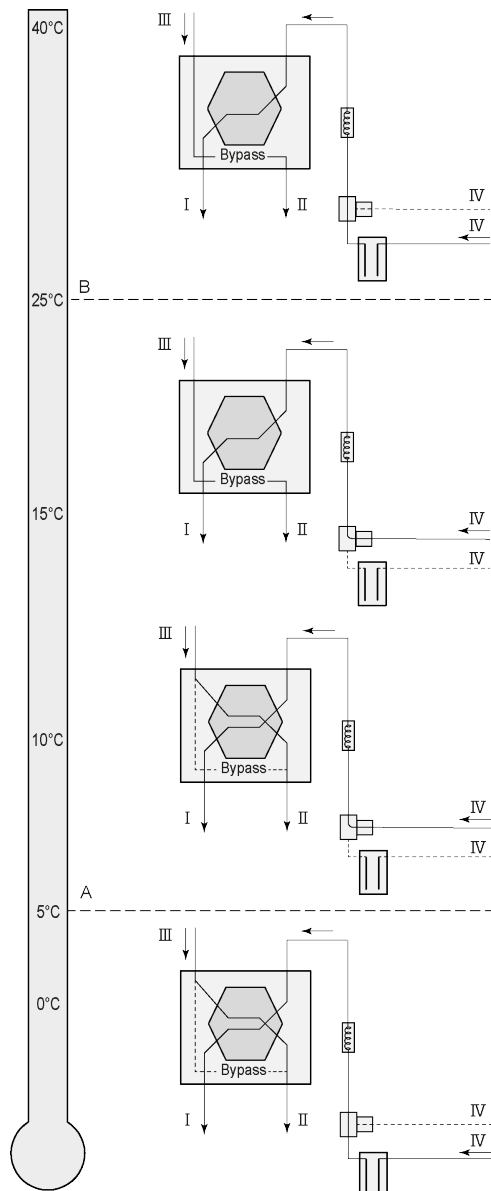
- Install the postheater in the supply air duct into the home.
- Connect the signal wire to connector X17 on the appliance.
- Do not install a postheater upside down.
- Set the postheater DIP-switches correctly (G).
- Set Flair parameter 5.1 and 5.3 correctly in the appliance.
- Connect the power plug to 230V after installation is complete.



A = Heating coil
 B = Maximum safety with manual reset
 C = 2-pole eBus connection X17 on Flair appliance
 D = Temperature sensor
 E = PCB UVP1
 F = Airflow direction
 G = Dipswitch setting Flair postheater

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

14.9 Connecting Geo-heat exchanger



A geo heat exchanger can be connected to the Flair appliance with (Plus) PCB.

Depending on the type of valve the geo heat exchanger can be connected to different connection of the (Plus) PCB:

X10 no. 1 & 2 - Relay output 1 (Factory setting)

X11 no. 1 & 2 - Relay output 2

X14 no. 1 & 2 - Analogue output 1 (0 - 10 V)

X15 no. 1 & 2 - Analogue output 2 (0 - 10 V)

Connect the outdoor temperature sensor to no. 1 and no. 2 of the 2-pole connectorX-16.

A = Min. temperature

B = Max. temperature

I = To dwelling

II = To outside

III = From dwelling

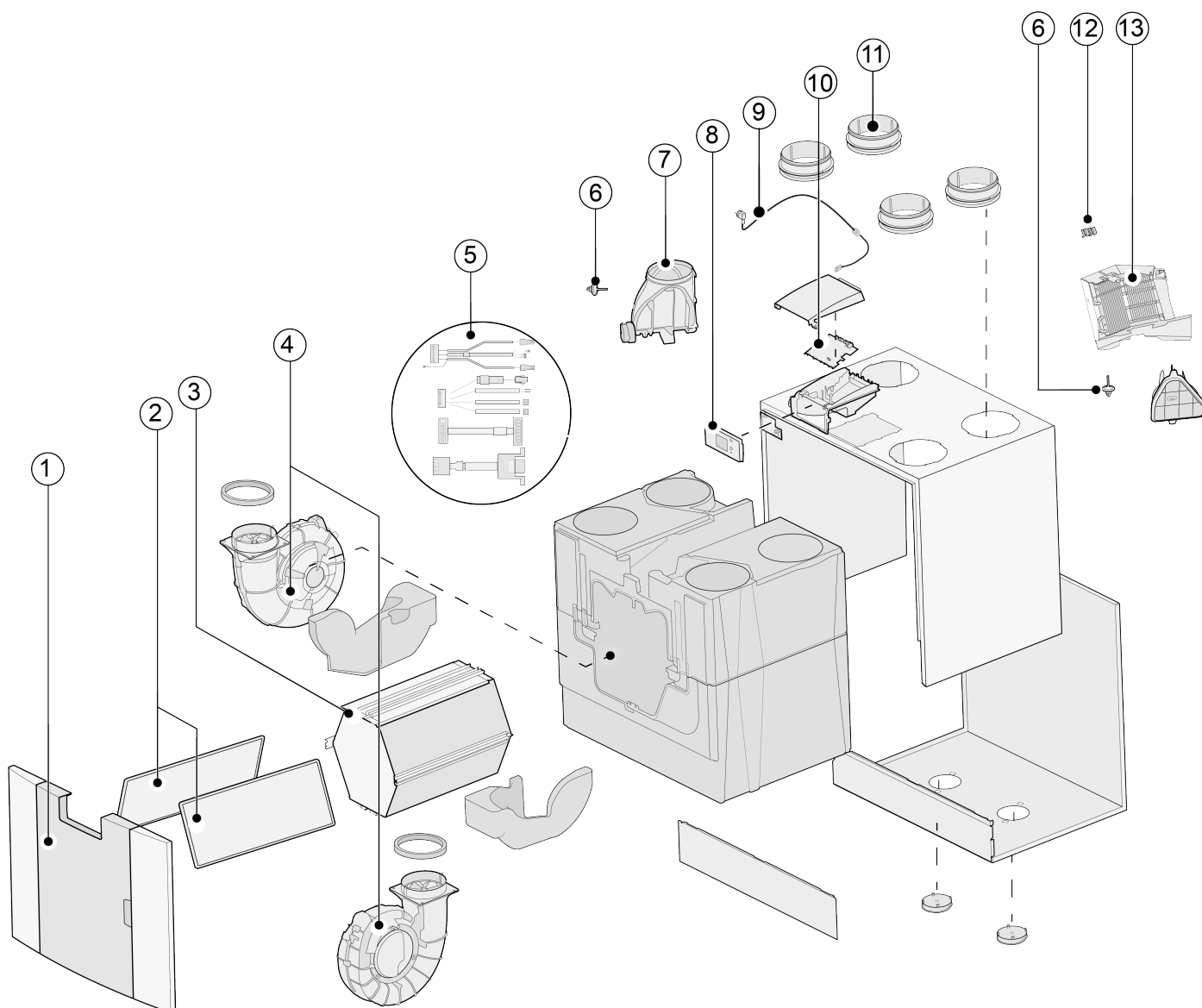
IV = From outside

When using a geo heat exchanger, Flair Parameter 11.1 must be changed from "OFF" to "ON".

Parameter	Description	Factory setting	Range
11.1	Switching on and off	Off	On/ off
11.2	Switch temperature 1	5°C	0.0 °C / 10.0 °C
11.3	Switch temperature 2	25°C	15.0°C / 40.0 °C
11.4	Mode valve 10 volt control	Closed	Open / Closed
11.5	Valve control	Relay output 1	Relay output 1/Relay output 2/ Analogue output 1/Analogue output 2

15 Service parts

15.1 Exploded view



Danger

The power cable is fitted with a circuit board 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.

15.2 Service articles

o.	Article description	Article code
1	Front panel complete Flair 450	532828
	Front panel complete Flair 600	532826
2	Filters (2 items) ISO Coarse 60%	532821
3	Heat exchanger enthalpy	532962
4	Fan (1 item)	533037
5	Cable set	532891
6	Temperature sensor NTC 10K (1 item)	531775
7	Bypass valve with motor complete	532760
8	Display pcb UBP-2	532752
9	Mains plug and cable 230 V *	532929
10	Appliances manufactured before 01-01-2023 : Basic pcb UWA2-B + display	532750
	Appliances manufactured after 01-01-2023 : Basic pcb UWA2-B	532966
11	Collars 200 mm	532899
12	Maximum security	532769
13	Internal preheater	532886

15.3 Ordering service parts

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



Note

Appliance type, serial number and year of production are stated on the identification plate behind the plastic front panel on the appliance.

Example	
Appliance type	Flair 450/600 Enthalpy (Plus)
Serial number	432000221201
Year of production	2024
Part	Fan
Article code	533037
Quantity	1

16 Settings

16.1 Setting values standard appliance

The below setting values are for a Flair 450/600 Enthalpy-appliance **without** (Plus) pcb.

Step No	Description	Factory settings	Setting range	Comment
1	Flow rate			
1.1	Flair 450 Air flow rate setting 0	75 m³/h	0 or adjustable between 75 m³/h and 450 m³/h (never higher than step no. 1.2)	
	Flair 600 Air flow rate setting 0	100 m³/h	0 or adjustable between 100 m³/h and 600 m³/h (never higher than step no. 1.2)	
1.2	Flair 450 Air flow rate setting 1	100 m³/h	Adjustable between 75 m³/h and 450 m³/h (not higher than step no. 1.3 or lower than step no. 1.1)	
	Flair 600 Air flow rate setting 1	150 m³/h	Adjustable between 100 m³/h and 600 m³/h (not higher than step no. 1.3 or lower than step no. 1.1)	
1.3	Flair 450 Air flow rate setting 2	200 m³/h	Adjustable between 75 m³/h and 450 m³/h (not higher than step no. 1.4 or lower than step no. 1.2)	
	Flair 600 Air flow rate setting 2	300 m³/h	Adjustable between 100 m³/h and 600 m³/h (not higher than step no. 1.4 or lower than step no. 1.2)	
1.4	Flair 450 Air flow rate setting 3	300 m³/h	Adjustable between 75 m³/h and 450 m³/h (not lower than step no. 1.3)	
	Flair 600 Air flow rate setting 3	500 m³/h	Adjustable between 100 m³/h and 600 m³/h (not lower than step no. 1.3)	
1.5	Imbalance permissible	Yes	Yes / No	Value calculated back to set flow rate, see screen
1.6	Imbalance (Open fireplace)	0%	0% / +20%	
1.7	Offset supply	0%	-15% / +15% fan setting	
1.8	Offset exhaust	0%	-15% / +15% fan setting	
1.19	Default fan setting	1	0 or 1	
2	Bypass			
2.1	Mode Bypass	Automatic	- Automatic - Bypass closed - Bypass open	
2.2	Bypass temperature "from dwelling"	24 °C	15 °C / 35 °C	
2.3	Bypass temperature "from outside"	10°C	7 °C / 15 °C	
2.4	Bypass hysteresis	2 °C	0 °C / 5 °C	
2.5	Mode Bypass boost	Off	On / Off	
2.6	Fan setting selection Bypass boost	3	0 / 3	

Step No	Description	Factory settings	Setting range	Comment
3	Frost protection			
3.1	Frost temperature	0 °C	-1,5 °C /1,5 °C	
3.2	Minimum intake temperature	10 °C	7 °C /17 °C	
4	Filter message			
4.1	Number of days until filter message	90	1 / 365 days	
4.2	Start of filter wizard	No	Yes / No	
4.3	Filter reset	No	Yes / No	
5	External heater			
5.1	Preheater on and off	Off	On / Off	
5.2	Postheater on and off	Off	On / Off	
5.3	Temperature postheater	21 °C	15 °C / 30 °C	
6	CO ₂ sensor			
6.1	Switching eBus CO ₂ sensor off and on	Off	On / Off	
6.2	Min. PPM eBus CO ₂ sensor 1	400 PPM	400 - 2000 PPM	
6.3	Max. PPM eBus CO ₂ sensor 1	1200 PPM		
6.4	Min. PPM eBus CO ₂ sensor 2	400 PPM		
6.5	Max. PPM eBus CO ₂ sensor 2	1200 PPM		
6.6	Min. PPM eBus CO ₂ sensor 3	400 PPM		
6.7	Max. PPM eBus CO ₂ sensor 3	1200 PPM		
6.8	Min. PPM eBus CO ₂ sensor 4	400 PPM		
6.9	Max. PPM eBus CO ₂ sensor 4	1200 PPM		
7	Humidity sensor			
7.1	Switching humidity sensor on and off	Off	On / Off	
7.2	Sensitivity of humidity sensor	0	+2 = most sensitive 0 = basic setting -2 = least sensitive	
8	Cascade			
8.1	Appliance setting	0 (Master)	0 / 9 (0=Master; 1 t/m 9 = Slave 1 t/m Slave 9)	
12	Central heating + heat recovery			
12.1	Status	Off	On / Off	
13	Network			

Step No	Description	Factory settings	Setting range	Comment
13.1	Set up WiFi network			
13.2	Sign up Brink Home			Enter password
13.3	IP address Default gateway Subnet Mask Primary DNS Secondary DNS Name Home Module Destination Server-IP Destination Server-port			
13.4	Advanced network settings			Change destination server IP and destination server port.
13.5	Advanced network settings	Off	On / Off	Clear all settings and return to default settings.
14	Communication			
14.1	Type of Bus connection	ModBus	Off / ModBus/ internal Bus	
14.2	Slave address	20	1 - 247	For Modbus
14.3	Baudrate	19k2	1200 / 2400 / 4800 / 9600 / 19k2 / 38k4 / 56k / 115k2	For Modbus
14.4	Parity	Even	No / Even / Odd	For Modbus
15	Appliance settings			
15.1	Language	English	English/ German/ French/ Dutch/ Lithuanian/ Danish/ Italian/ Polish/ Spanish/ Romanian/ Slovak/ Slovenian/ Estonian/ Norwegian/ Czech/ Hungarian/ Latvian	
15.2	Date format	dd-mm-yyyy	dd-mm-yyyy / mm-dd-yyyy	
15.3	Date			
15.4	Time format	24h	12h / 24h	
15.5	Time			
15.8	Display	No	Yes / No	Display half an hour active as multiple switch; when "yes" is selected touchscreen permanently set as multiple switch
15.9	Back to factory settings	No	Yes / No	
15.10	Fan position wizard	No	Yes / No	
16	Signal output			
16.1	Signal output	External contact 24V	Off / Only filter condition / Only fault condition / Filter and fault condition/ 24V	Connector X19
17	Standby			
17.1	Switch off appliance	No	Yes / No	

16.2 Setting values appliance with (Plus) pcb

Flair-appliance **with** (Plus) pcb.

Step No	Description	Factory settings	Setting range	Comment
9	Switch contacts			
9.1	Make or break contact 1	Make	Make / Break	
9.2	Switch contact control 1	Off	Off On Meets Bypass conditions Open bypass valve Open external valve	
9.3	Contact 1 Supply fan action	Fan off	Fan off Fan runs at absolute minimum Fan at setting 1 Fan at setting 2 Fan at setting 3 Fan at step 0 Fan according to multi-position switch Fan runs at absolute maximum No supply fan control	
9.4	Contact 1 Exhaust fan action	Fan off	Fan off Fan runs at absolute minimum Fan at setting 1 Fan at setting 2 Fan at setting 3 Fan at step 0 Fan according to multi-position switch Fan runs at absolute maximum No exhaust fan control	
9.5	Make or break contact 2	Make	Make / Break	
9.6	Switch contact control 2	Off	Off On Meets Bypass conditions Open bypass valve Open external valve	
9.7	Contact 2 Supply fan action	Fan off	Fan off Fan runs at absolute minimum Fan at setting 1 Fan at setting 2 Fan at setting 3 Fan at step 0 Fan according to multi-position switch Fan runs at absolute maximum No supply fan control	
9.8	Contact 2 Exhaust fan action	Fan off	Fan off Fan runs at absolute minimum Fan at setting 1 Fan at setting 2 Fan at setting 3 Fan at step 0 Fan according to multi-position switch Fan runs at absolute maximum No exhaust fan control	

Step No	Description	Factory settings	Setting range	Comment
10	0 - 10 V.			
10.1	Mode input 1	Off	On / Off	Connector X-12
10.2	Minimum voltage input 1	0V	0V / 10V	
10.3	Maximum voltage input 1	10V	0V / 10V	
10.4	Mode input 2	Off	On / Off	Connector X-13
10.5	Minimum voltage input 2	0V	0V / 10V	
10.6	Maximum voltage input 2	10V	0V / 10V	
11	Geo-heat exchanger			
11.1	Switching on and off	Off	On / Off	
11.2	Switch temperature 1	5 °C	0.0 °C / 10.0 °C	
11.3	Switch temperature 2	25 °C	15.0°C / 40.0 °C	
11.4	Mode valve 24 volt control	Closed	Open / Closed	
11.5	Valve control	Relay output 1	Relay output 1/ Relay output 2/ Analogue output 1/ Analogue output 2	

17 Conformity declaration

Manufacturer: Brink Climate Systems B.V.

Address: P.O. Box 11
NL-7950 AA, Staphorst, The Netherlands

Product: Heat recovery appliance type:
Flair 450 Enthalpy
Flair 600 Enthalpy

The product described above complies with the following directives:

- | | |
|-------------------|-----------------------------|
| ◆ 2014/30/EU | (OJEU L 96/79; 29-03-2014) |
| ◆ 2014/35/EU | (OJEU L 96/357; 29-03-2014) |
| ◆ 2009/125/EU | (OJEU L 285/10; 31-10-2009) |
| ◆ 2017/1369/EU | (OJEU L 198/1; 28-07-2017) |
| ◆ RoHS 2011/65/EU | (OJEU L 174/88; 01-07-2011) |

The product described above has been tested according to the following standards:

- | | |
|---------------------|---|
| ◆ EN IEC 55014-1: | 2021 |
| ◆ EN IEC 55014-2: | 2021 |
| ◆ EN IEC 61000-3-2: | 2019 + A1:2021 |
| ◆ EN 61000-3-3: | 2013 + A1:2019 + A2:2021 |
| ◆ EN 60335-1: | 2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 +
A2:2019 + A14:2019 + A15:2021 |
| ◆ EN 60335-2-40: | 2003 + A11:2004 + A12:2005 + AC:2006 + A1:2006 +
A2:2009 + AC:2010 + A13:2012 |
| ◆ EN 62233: | 2008 + AC:2008 |

Staphorst, 07-06-2023



A. Hans
Managing Director

18 ERP values Flair 450 Enthalpy

Technical information sheet Flair 450 Enthalpy in accordance with Ecodesign (ErP), no. 1254/2014 (Annex IV)					
Manufacturer:		Brink Climate Systems B.V.			
Model:		Flair 450 Enthalpy Enthalpy			
Climate zone	Type of control	SEC Value in kWh/m ² /a	SEC Class	Annual electricity consumption (AEC) in kWh	Annual heating saved (AHS) in kWh
Average	manual	-35.90	A	258	4168
	clock control	-36.79	A	237	4204
	1x sensor (RV/CO ₂ /VOC)	-38.48	A	199	4278
	2 or more sensors (RV/CO ₂ /VOC)	-41.54	A	135	4424
Cold	manual	-70.39	A+	795	8153
	clock control	-71.63	A+	774	8225
	1x sensor (RV/CO ₂ /VOC)	-74.02	A+	736	8368
	2 or more sensors (RV/CO ₂ /VOC)	-78.48	A+	672	8655
Hot	manual	-13.52	E	213	1885
	clock control	-14.21	E	192	1901
	1x sensor (RV/CO ₂ /VOC)	-15.50	E	154	1934
	2 or more sensors (RV/CO ₂ /VOC)	-17.76	E	90	2001
Type of ventilation unit:		Balanced residential ventilation appliance with heat recovery			
Fan:		EC - fan with infinitely variable control			
Type of heat exchanger:		Recuperative plastic counterflow heat exchanger			
Thermal efficiency		77%			
Maximum flow rate:		450 m ³ /h			
Maximum rated power:		192 W			
Sound power level L _{wa} :		47 dB(A)			
Reference flow rate:		315 m ³ /h			
Reference pressure:		50 Pa			
Specific Power Input (SEL):		0.17 Wh/m ³			
Control factor:		1.0 in combination with multiple switch			
		0.95 in combination with clock control			
		0.85 in combination with 1 sensor			
		0.65 in combination with 2 or more sensors			
Leakage*	Internal	1.20%			
	External	1.30%			
Position dirty filter indication:		On the display of the appliance / on the multiple switch (LED) / on the Brink Air 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, 100% Bypass			

* Measurements executed by Brink Climate Systems B.V. according to the EN 13141-7: 2021 (Brink-report 2230, 09-10-2023)

Classification from 1 January 2016	
SEC class ("Average climate zone")	SEC in kWh/m²/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

19 ERP values Flair 600 Enthalpy

Technical information sheet Flair 600 Enthalpy in accordance with Ecodesign (ErP), no. 1254/2014 (Annex IV)					
Manufacturer:		Brink Climate Systems B.V.			
Model:		Flair 600 Enthalpy Enthalpy			
Climate zone	Type of control	SEC Value in kWh/m ² /a	SEC Class	Annual electricity consumption (AEC) in kWh	Annual heating saved (AHS) in kWh
Average	manual	-34.01	A	296	4072
	clock control	-35.03	A	271	4114
	1x sensor (RV/CO ₂ /VOC)	-36.99	A	226	4196
	2 or more sensors (RV/CO ₂ /VOC)	-40.52	A	151	4362
Cold	manual	-67.58	A+	833	7966
	clock control	-69.00	A+	808	8047
	1x sensor (RV/CO ₂ /VOC)	-71.75	A+	763	8209
	2 or more sensors (RV/CO ₂ /VOC)	-76.87	A+	688	8533
Hot	manual	-12.15	E	251	1841
	clock control	-12.95	E	226	1860
	1x sensor (RV/CO ₂ /VOC)	-14.45	E	181	1898
	2 or more sensors (RV/CO ₂ /VOC)	-17.08	E	106	1972
Type of ventilation unit:		Balanced residential ventilation appliance with heat recovery			
Fan:		EC - fan with infinitely variable control			
Type of heat exchanger:		Recuperative plastic counterflow heat exchanger			
Thermal efficiency		74%			
Maximum flow rate:		600 m ³ /h			
Maximum rated power:		288 W			
Sound power level L _{wa} :		53 dB(A)			
Reference flow rate:		420 m ³ /h			
Reference pressure:		50 Pa			
Specific Power Input (SEL):		0.20 Wh/m ³			
Control factor:		1.0 in combination with multiple switch			
		0.95 in combination with clock control			
		0.85 in combination with 1 sensor			
		0.65 in combination with 2 or more sensors			
Leakage*	Internal	0.90%			
	External	1.00%			
Position dirty filter indication:		On the display of the appliance / on the multiple switch (LED) / on the Brink Air 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, 100% Bypass			

* Measurements executed by Brink Climate Systems B.V. according to the EN 13141-7: 2021 (Brink-report 2230, 09-10-2023)

Classification from 1 January 2016	
SEC class ("Average climate zone")	SEC in kWh/m²/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

20 Recycling and disposal



Do not dispose of as household waste!

In accordance with the Waste Disposal Act, the following components must be disposed of or recycled in an environmentally compatible manner by means of appropriate collection points:

- Old appliance
- Wearing parts
- Defective components
- Electrical or electronic waste
- Environmentally hazardous liquids and oils

Environmentally compatible means separated by material groups to ensure the greatest possible recyclability of the basic materials with the minimum environmental impact.

1. Dispose of packaging made of cardboard, recyclable plastics and synthetic filler materials in an environmentally compatible manner through appropriate recycling systems or a recycling center.
2. Please observe the applicable national and local regulations.

