FLEXEO BP 210 FL 3V

EN

Summary

The kit contains:

1st Package:

1. Heat exchanger with bypass x 1
2. Heat exchanger support x 1
3. Condensate drain pipes x 2
4. Condensate drain fittings x 2

2nd Package:

1. Fan module x 2
2. Connection box x 1
3. Fan support x 1
4. Wired remote control x 1
5. Programming device x 1
6. Instructions x 1

1- GENERAL INFORMATION

1.1 - Introduction

This is an instruction manual for FLEXEO and adjoining parts (mains network, hydrants, regulators, etc.).
The manual aims to offer clear instructions and safety advice when preparing, installing and using the system.
As our products are constantly evolving, Soler & Palau reserves the right to make changes to the manual without prior notice.

1.2 - Warranty and liability

Warranty

The FLEXEO heat recovery system comes with a 3 year warranty from the date of purchase. This warranty includes free delivery of spare parts.

The warranty does not cover:
Assembly and dismantling costs.
Any defects that Soler & Palau considers are due to improper installation or use, or due to neglect or an accident.
The defects that appear after being used or repaired by a third party not approved by Soler & Palau.
To return a defective part, the user should contact the installer.

Liability

FLEXEO is designed for ventilation systems, provide a mechanical extract and fresh air supply for individual housing. Soler & Palau cannot be held responsible for damage caused by:
• Misuse,
• Normal wear and tear,
• Failure to follow the instructions in the manual regarding safety, use and implementation,
• Using parts not supplied by Soler & Palau.

1.3 - Safety

General safety guidelines

After correct installation, the system will conform to EC directives and will pose no risks to health and safety or to the environment. This is also true for the other products used in the installation.
The following general guidelines are important:
Follow the safety instructions to prevent damage to the motorised fans or people.
The technical specifications in this manual should not be altered.
The motorised fans should not be changed.
The motorised fans must have a single-phase alternating current electrical power supply of 230 V/50 Hz.
To make sure the installation complies with EC directives, FLEXEO must be connected to the electrical grid according to current standards.
The device must be mounted in such a way so that, under normal operating conditions, there is no risk of contact with moving or electrical parts.
The FLEXEO system meets current standards for electrical appliances.
Before servicing the device, make sure the power is off.
Make sure to use appropriate tools.
Use the device only for its designated purpose.

2 - TECHNICAL INFORMATION

2.1- General description

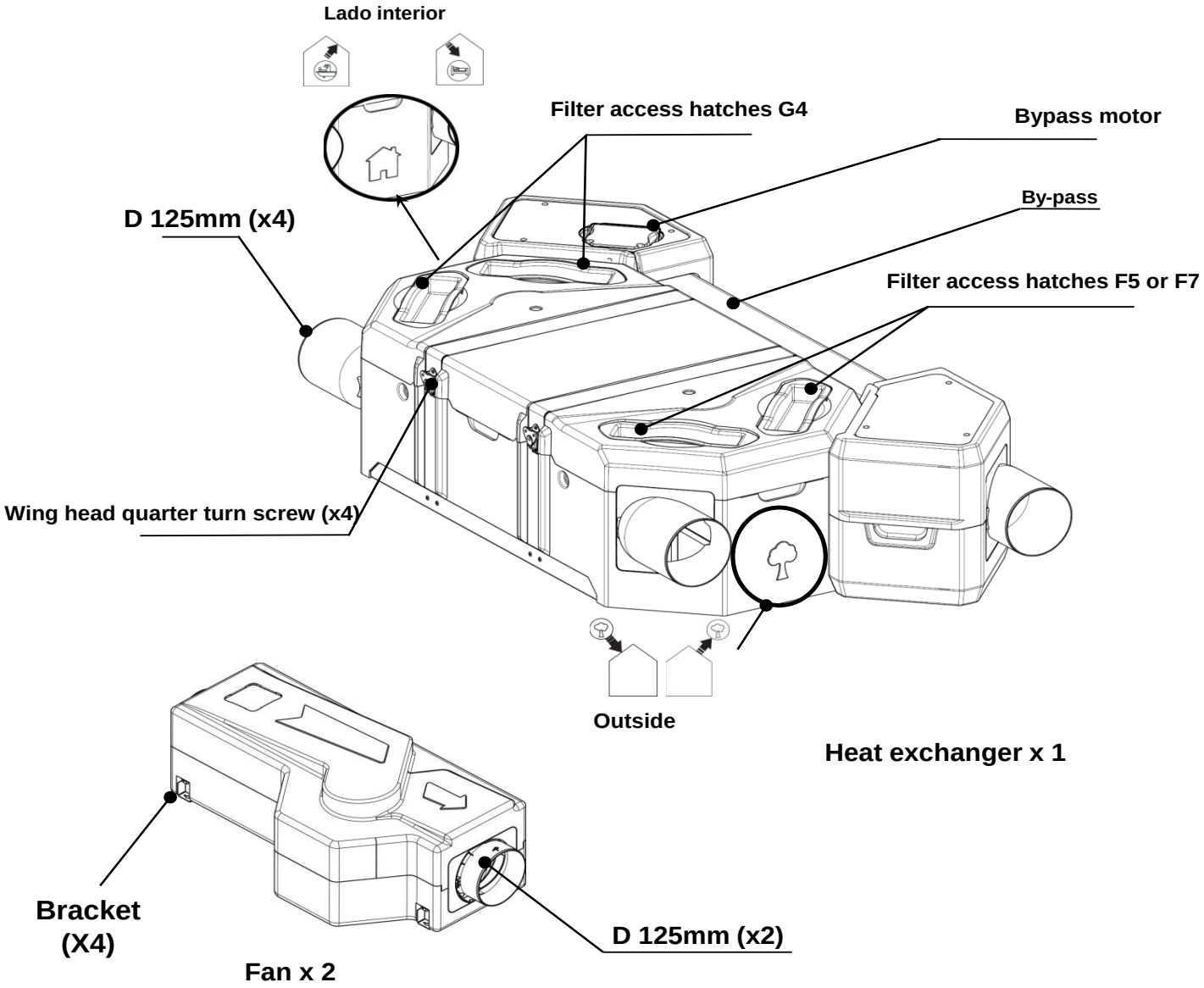
The FLEXEO system ensures optimal ventilation with maximum energy recovery. The system extracts air from wet rooms (bathrooms, toilets, kitchens and wet rooms) and replaces it with fresh air from outdoors which it supplies to the other rooms (the living room, bedroom(s), study, etc.). When used in commercial premises and in certain countries, air can be extracted and replaced in the same room.

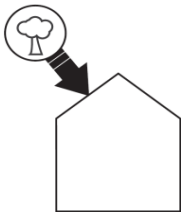
The new and extracted air are separated and filtered. Only the heat is transferred to the new air. Thanks to the highly efficient FLEXEO heat exchanger, the system achieves up to 96% efficiency.

When condensation builds, it runs into the drain, which should be connected to the wastewater network.

By avoiding the heat exchanger, the FLEXEO 100% bypass system allows the cool night air to be pumped into the building without it being heated by coming into contact with the hot air that accumulates in the building during the day. The system operates automatically or can be used manually (see section 4.2)

2.2 - FLEXEO components

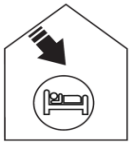




Fresh air intake:

This connection is to connect to the supply duct of fresh air from outside. Be sure to position the fresh air outlet (on a wall or roof) at a sufficient distance from any areas with air pollution (trees, chimneys, roads, etc.).

> This duct should be thermally insulated and sealed to prevent condensation forming on the inside or outside of the duct.



Fresh air induction into the building:

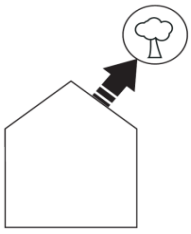
This connection is to connect to the supply duct of heated fresh air to the building habitable rooms.

To avoid heat loss, it is advisable to use insulated ducts and to attach it to a heated room.

Extracting air from the building:

This connection is to connect to the extract air duct from the building wet rooms.

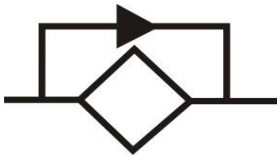
To avoid heat loss, and to make sure the system works as well as possible, it is advisable to use insulated ducts and to attach it to a heated room.



Extracted air to the outside:

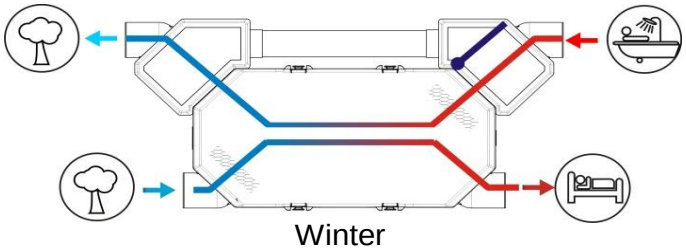
This connection is to connect to the air duct extracting from inside the house to the outside.

> This duct should be thermally insulated and sealed to prevent condensation forming on the inside or outside of the duct.

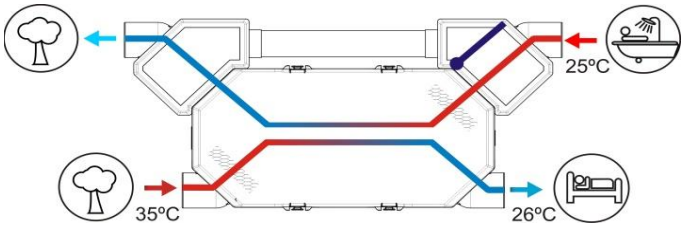


Bypass:

By avoiding the heat exchanger, the FLEXEO 100% bypass system allows the cool night air to be pumped into the house in the summertime, without it being heated by coming into contact with the hot air that accumulates in the house during the day.

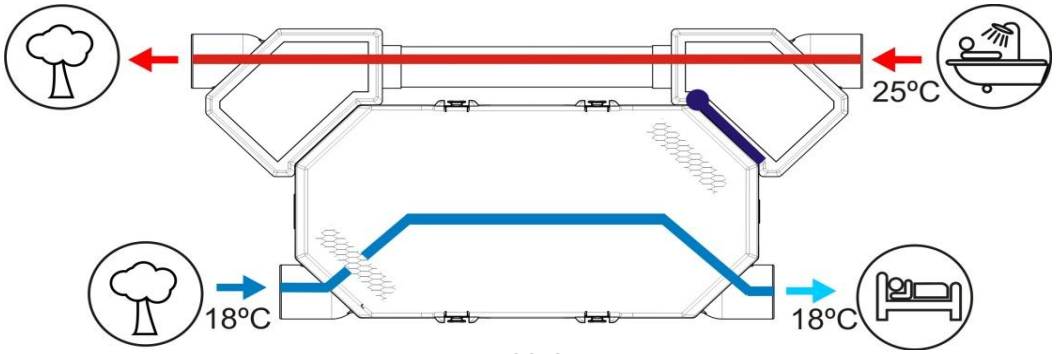


Winter



Summer

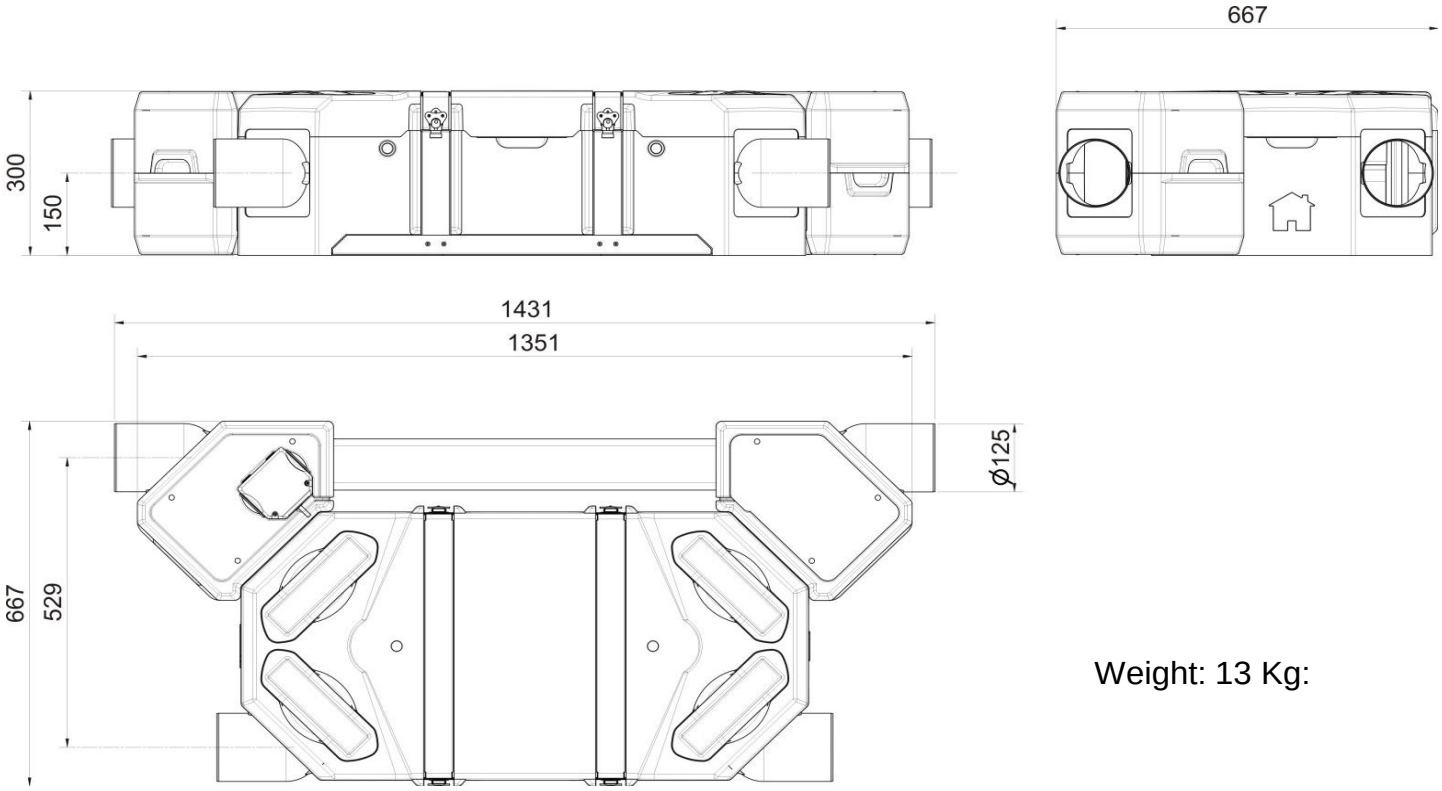
Use without bypass



Use with bypass

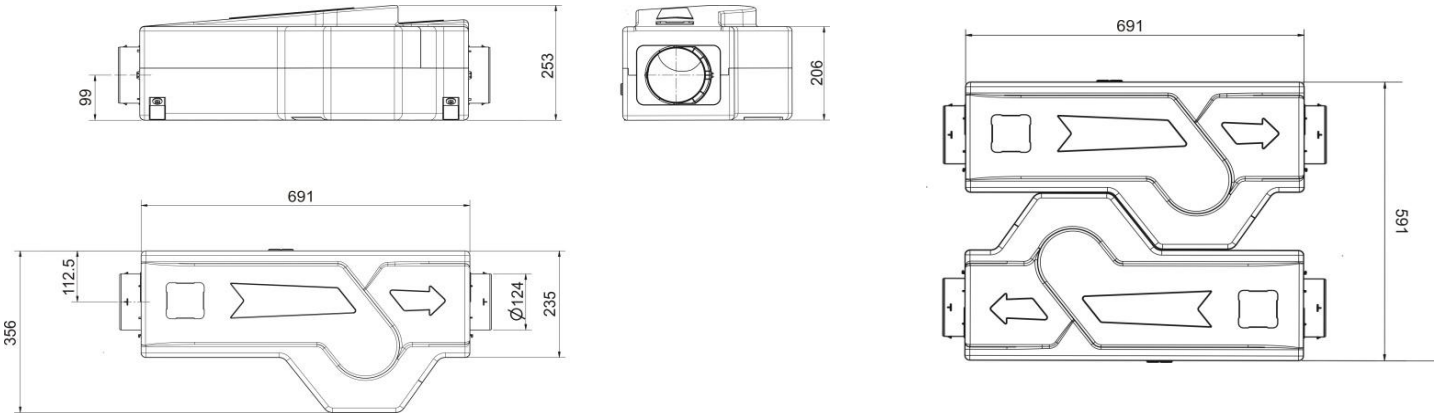
2.3 - Size and weight:

2.3.a – Heat exchanger + bypass

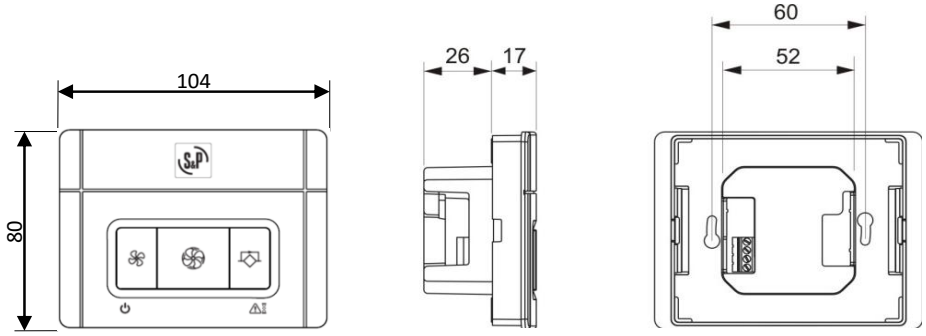


Weight: 13 Kg:

2.3.b – Fans:



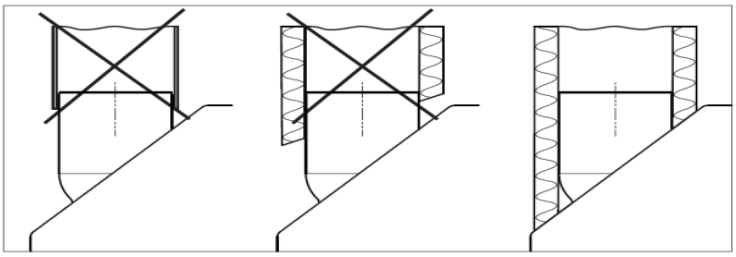
2.3.c – Wired remote control



3 - COMMISSIONING

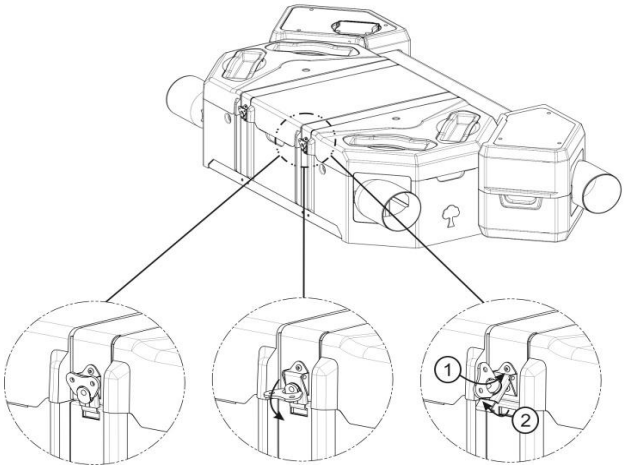
3 .1- General requirements:

- The instructions include all the possible options for implementation.
- Position the FLEXEO system in a heated room. If this is not possible, make sure to insulate the device to stop condensation.
- The ducts must be correctly insulated and fitted, and the insulation must completely cover the pipe as shown below.



Duct not insulated | Duct insulated | Duct insulated

3.2- Mounting the heat exchanger



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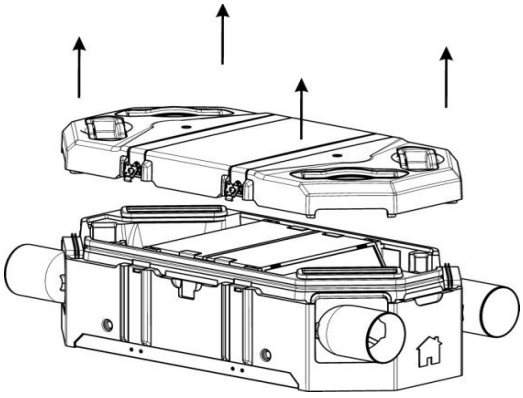

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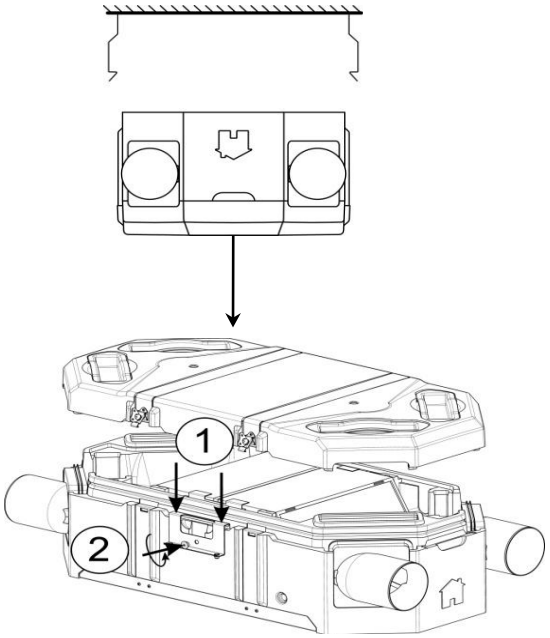

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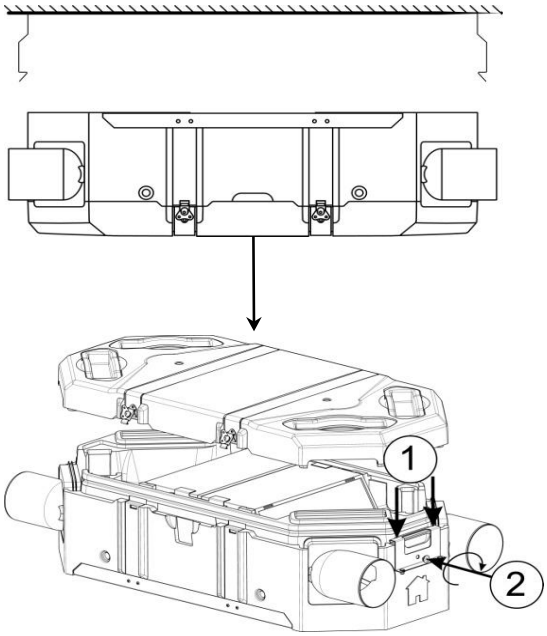
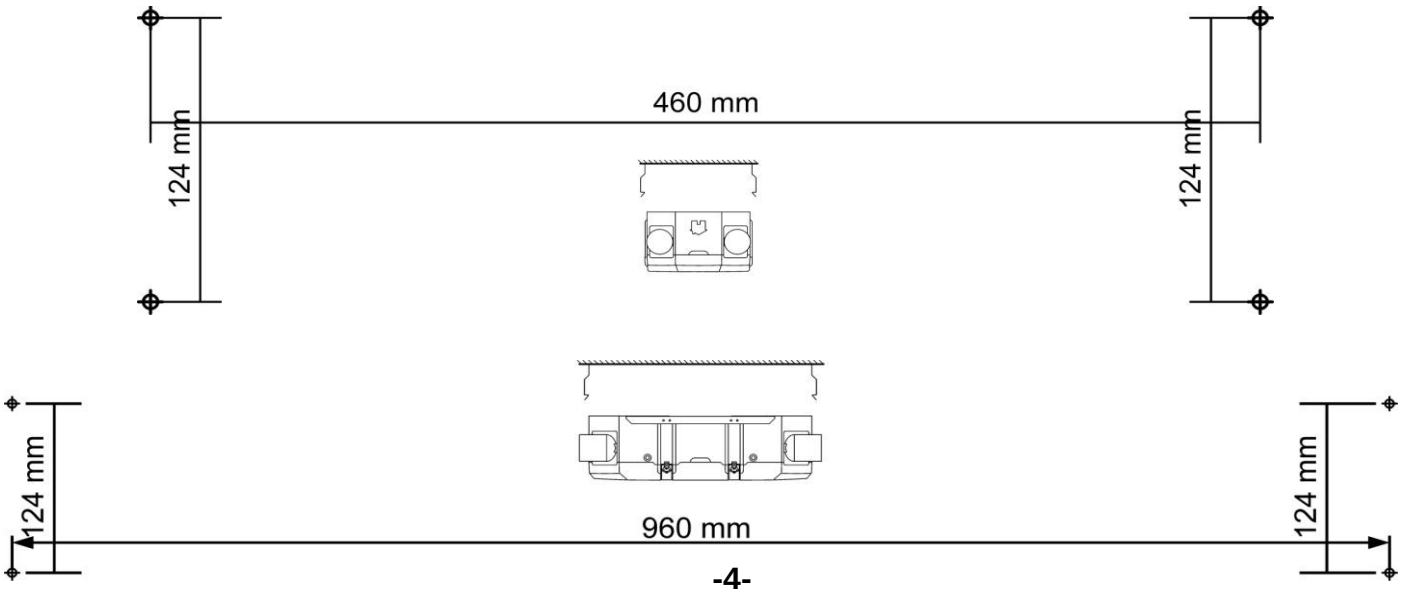




-4-

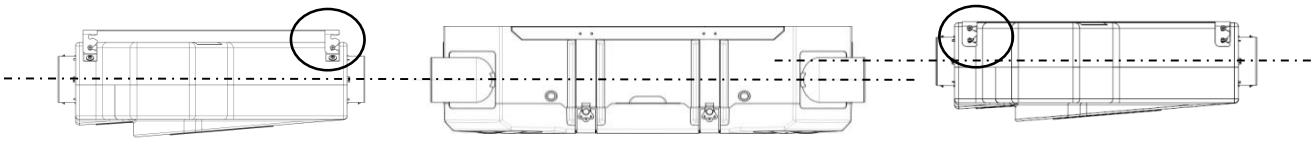
Use the template printed on the packaging

3.3 - <u>Mounting the fans:</u>

The fan bracket offers the option of two mounting heights:

1 - Mounted at the same height as the heat exchanger.

2 - Mounted separately, meaning they can be installed at the lowest possible height.

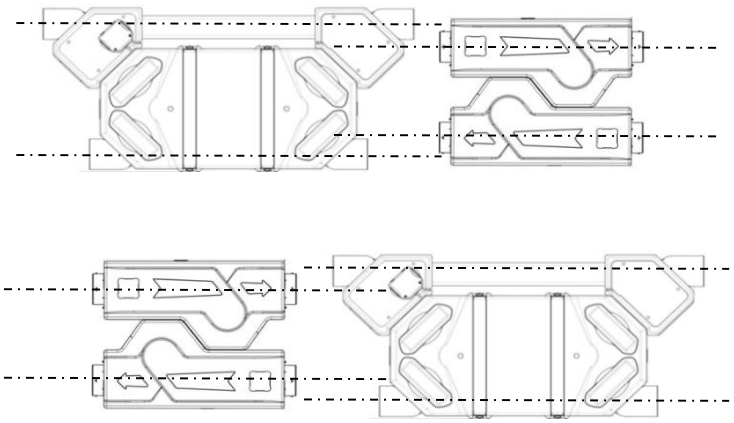


-1- **-2-**

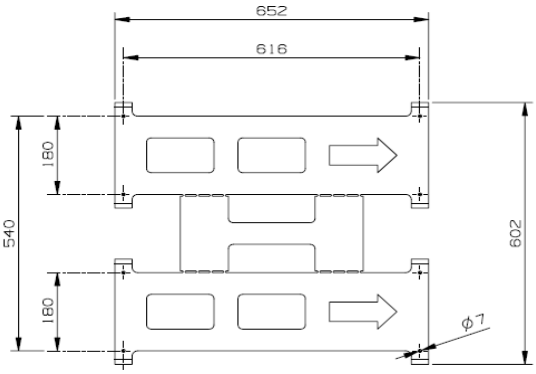
The fans can be mounted together or separately, and the position of the fans can be adapted to your needs without any restrictions in terms of the the heat exchanger.

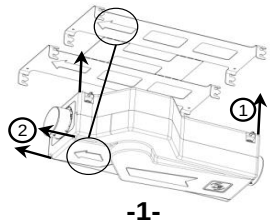
Install the heat exchanger in a heated area of the house, and the fans in utility rooms (laundry room, garage, etc.), or in the attic:

<u>3.3.a- Mounted together</u>:



Use the 4 screws to attach the two fans. Attach the bracket, observing the direction of airflow marked on the fan and the arrow on the bracket.
Fix the two fans by tightening the 4 outer screws.





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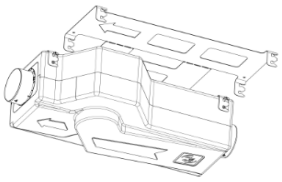

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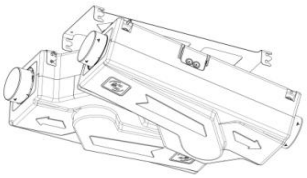

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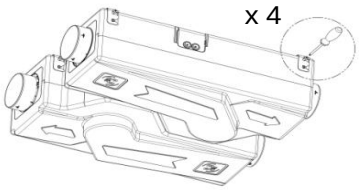
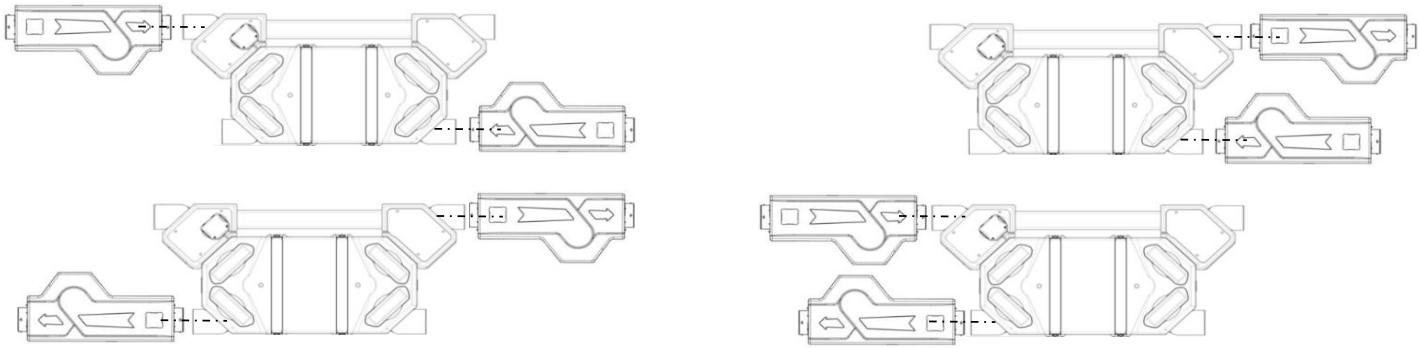


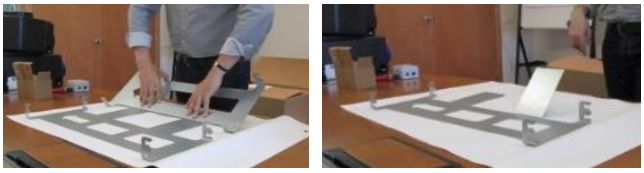
- 4 -

3 .3.b- Mounted separately:

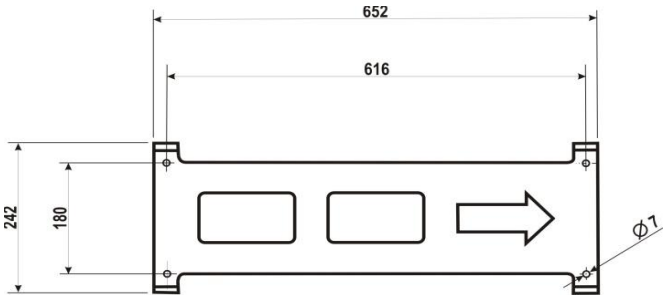
The fans can be mounted separately on each side of the heat exchanger:

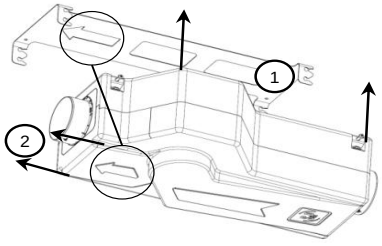


Separate the bracket as instructed:



Use the 4 screws to attach the two fans. Attach the bracket, observing the direction of -airflow marked on the fan and the arrow on the bracket.





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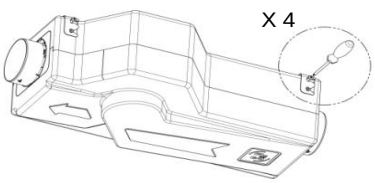

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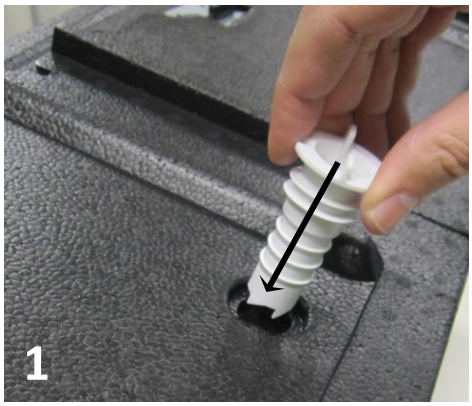
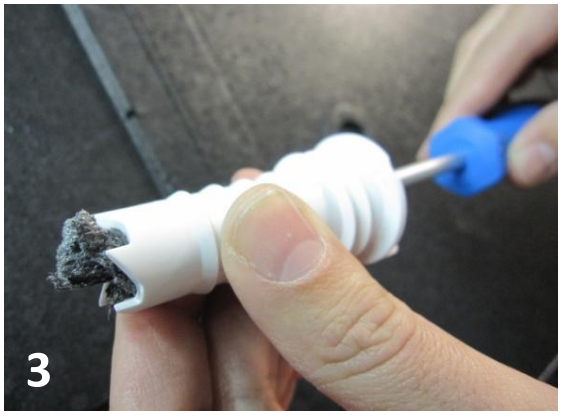
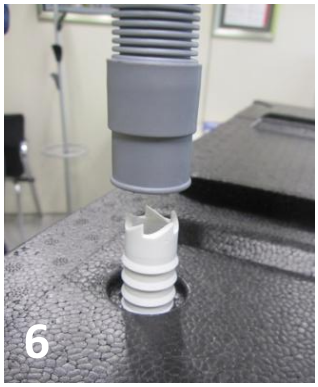
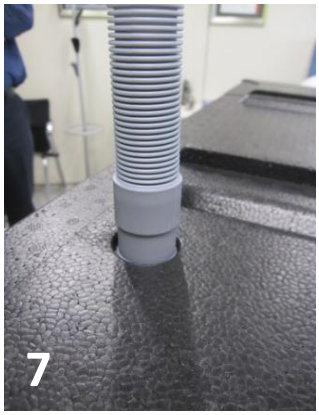
3.4- Installing and connecting the condensate drain:

The choice of position for the condensate drain depends on the type of mount (see section 3.5).





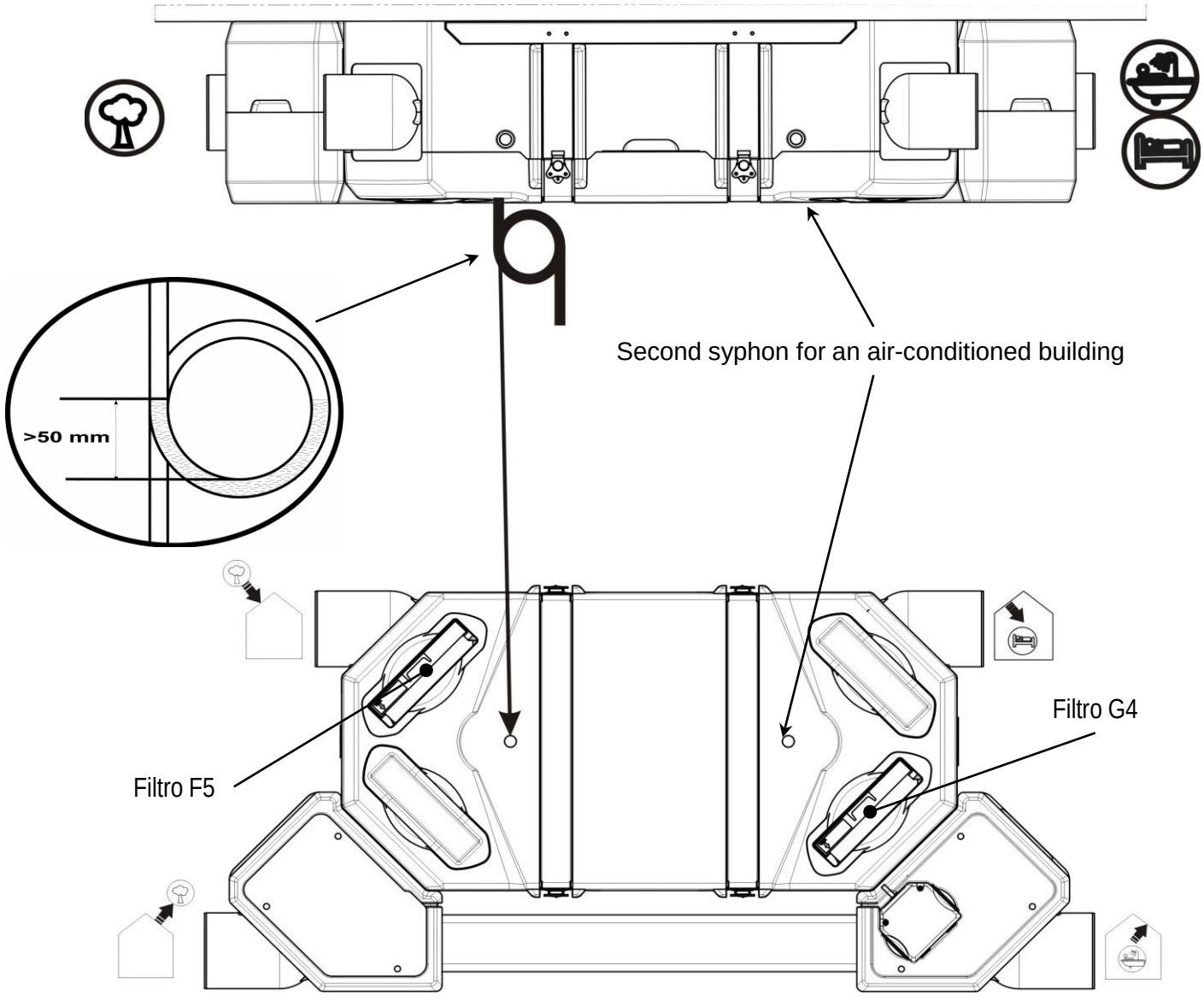




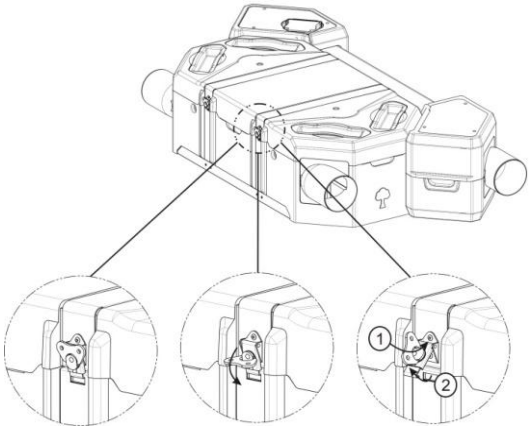
3.5- Choice of mounting options for the heat exchanger:

3.5.a- Ceiling mounted (Type A):

Factory setting mounting
TYPE A



3.5.b- Ground mounted (Type B):



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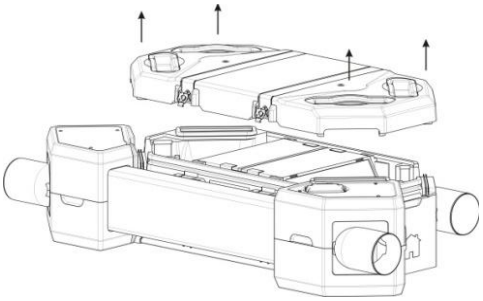

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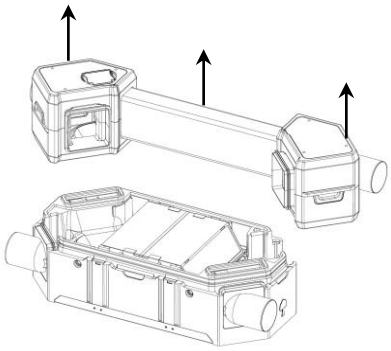

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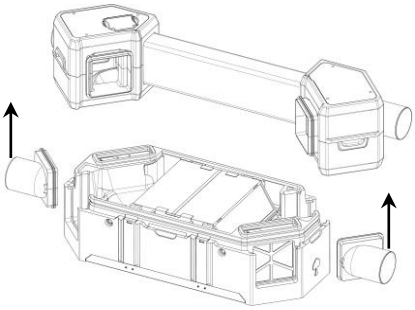

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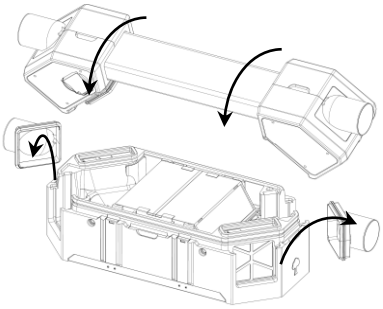

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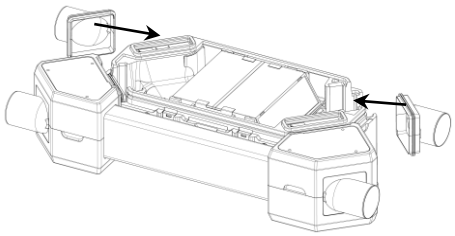

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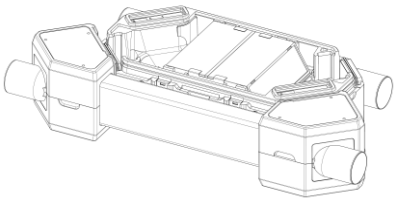

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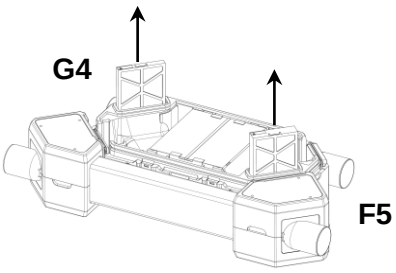

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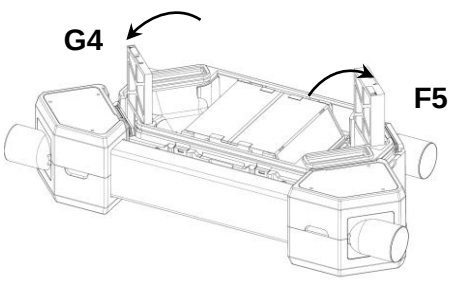

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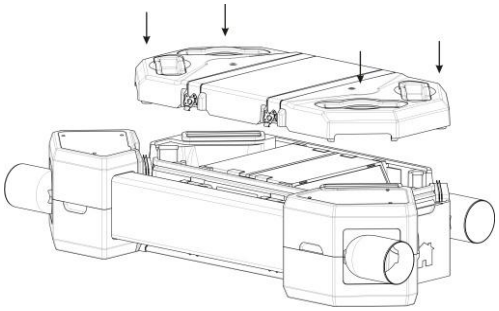

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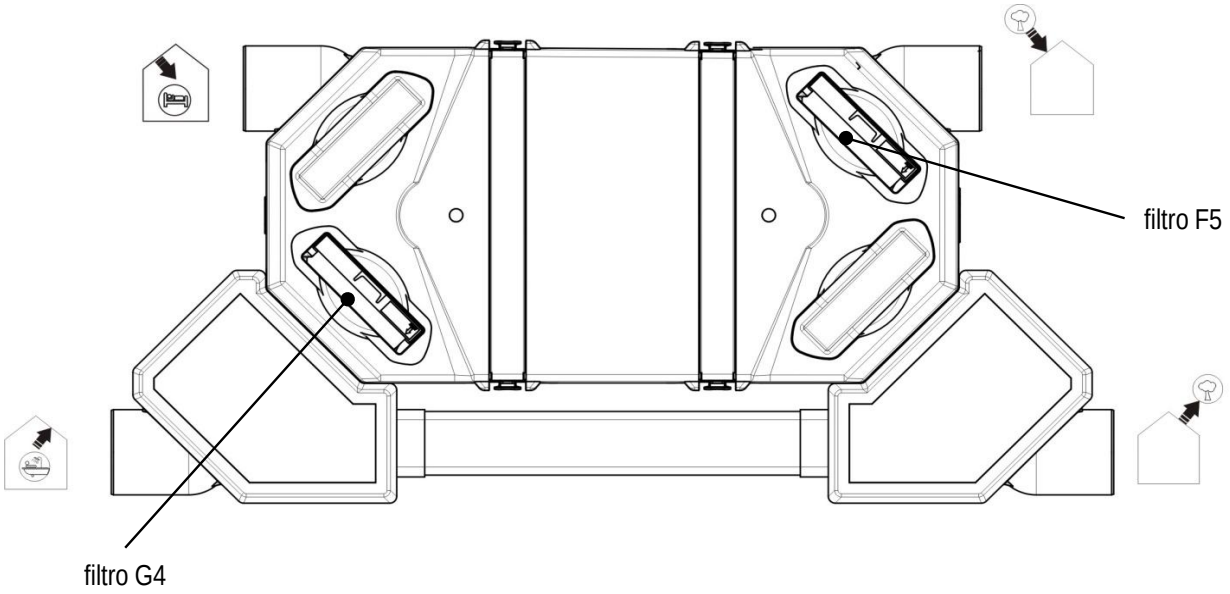
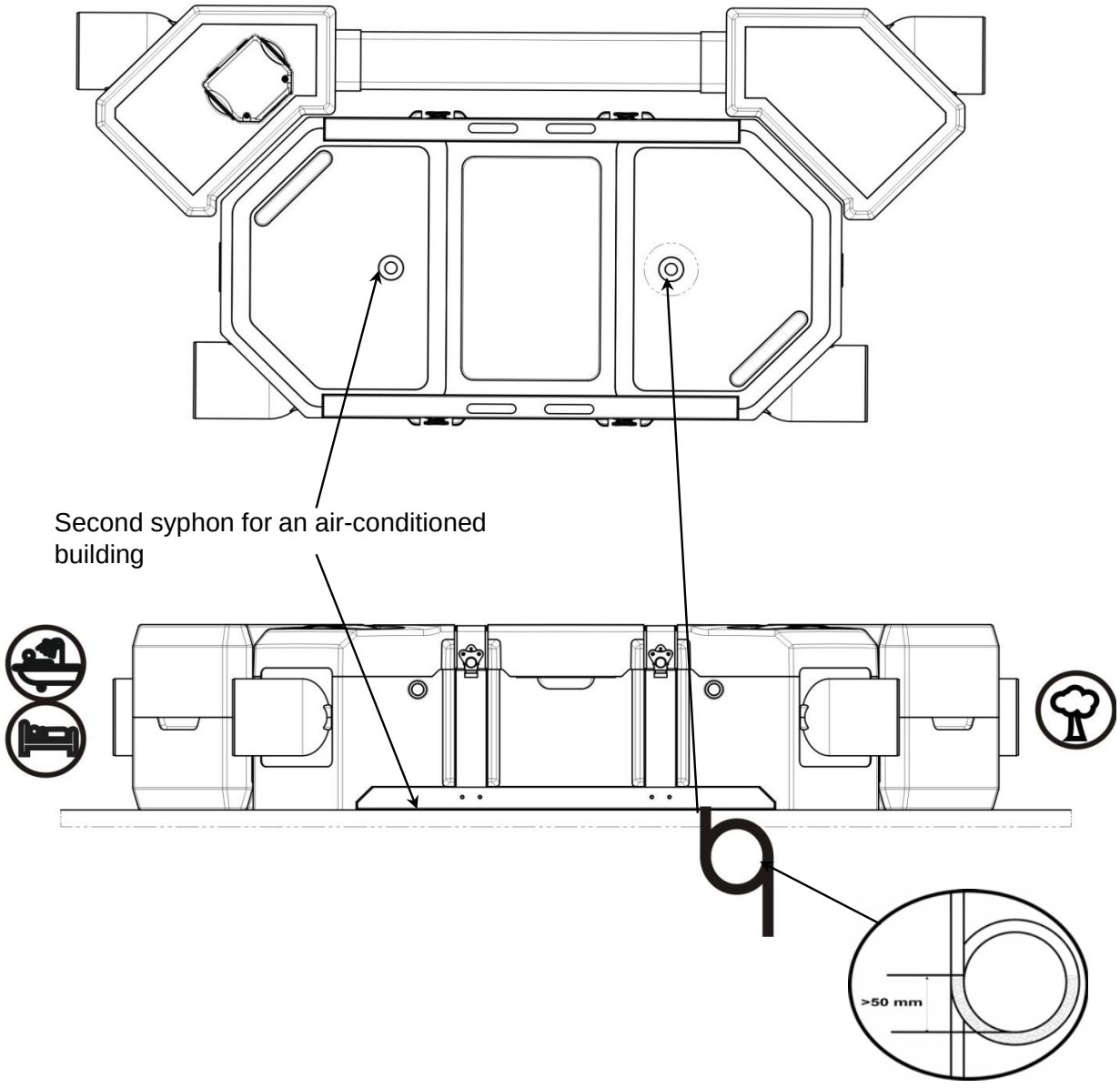
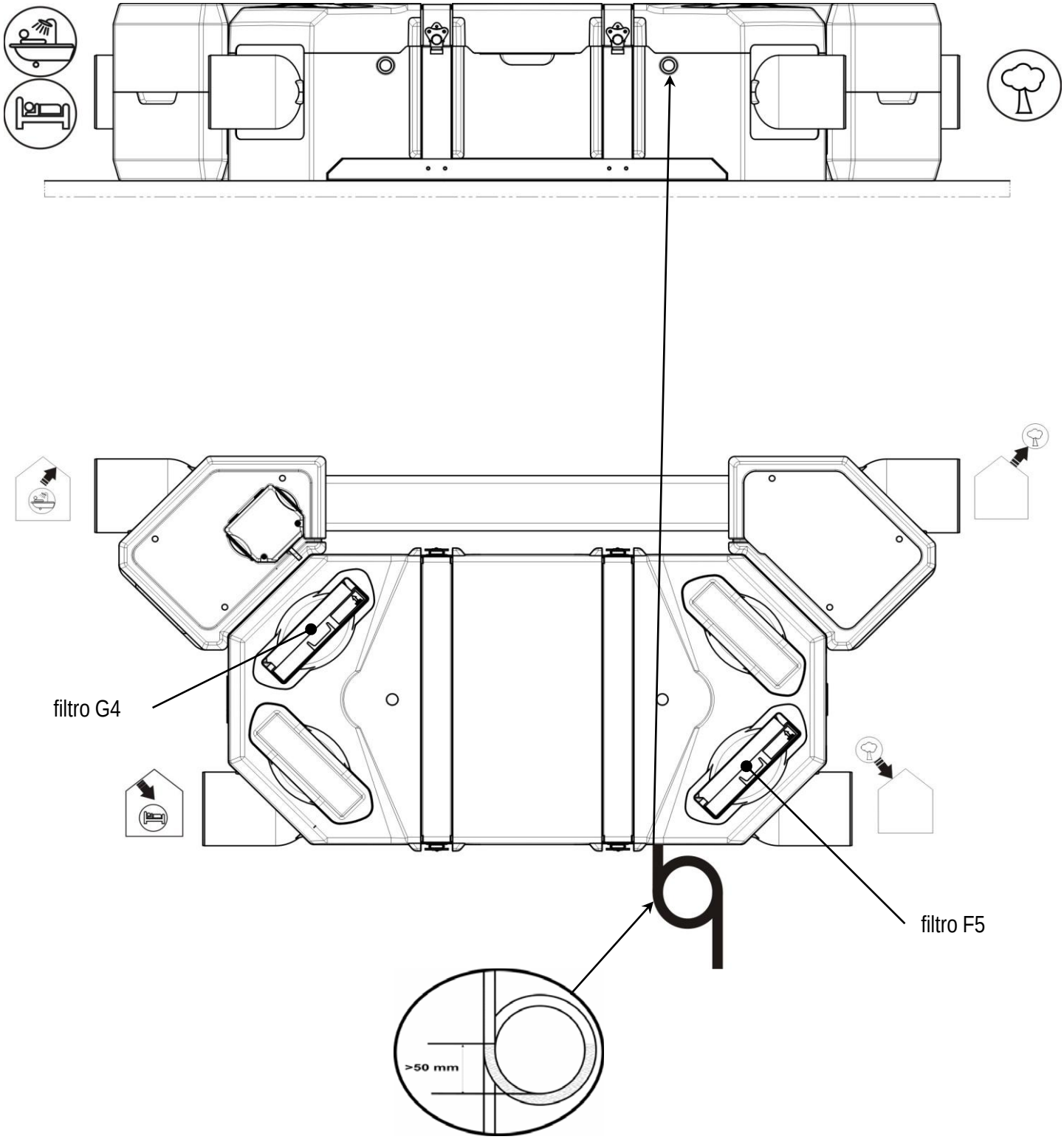
3.5.c- Ground mounted (continued):





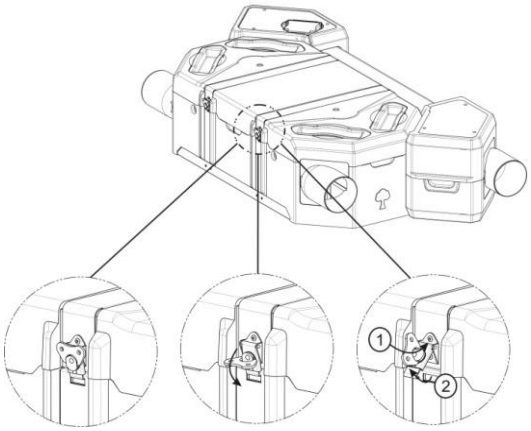
3.5.d- Wall mounted with an external air inlet on the right (Type A):

Not for use in air-conditioned houses.



3.5.e- Wall mounted with an external air inlet on the left (Type B):

Not for use in air-conditioned houses.



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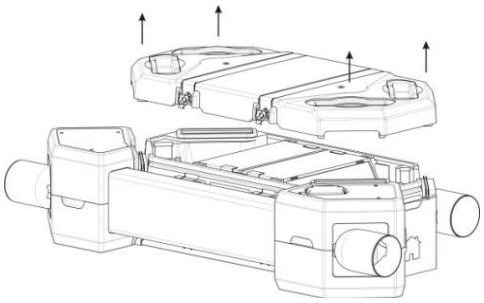
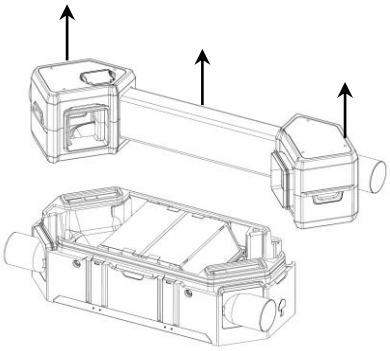
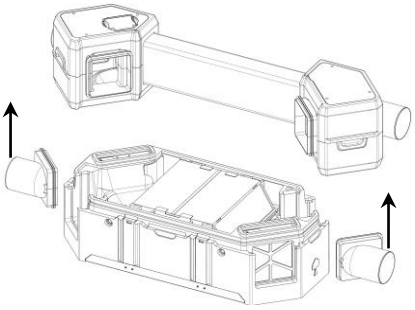


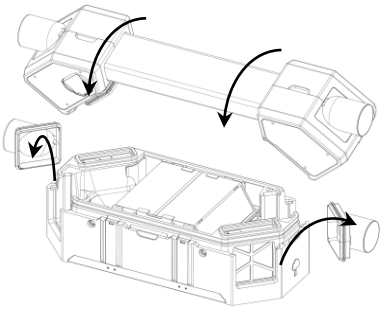
-2-



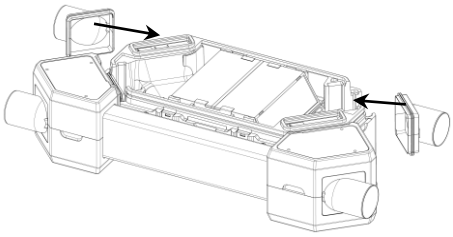
-3-



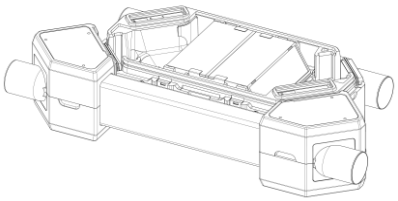
-4-



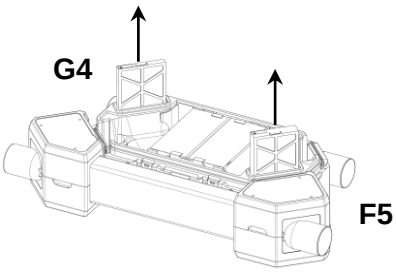
-5-



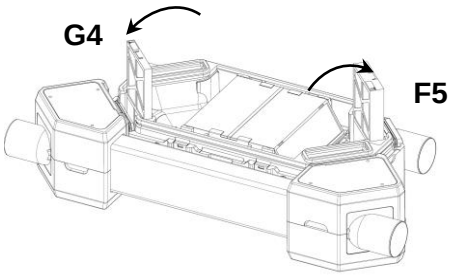
-6-



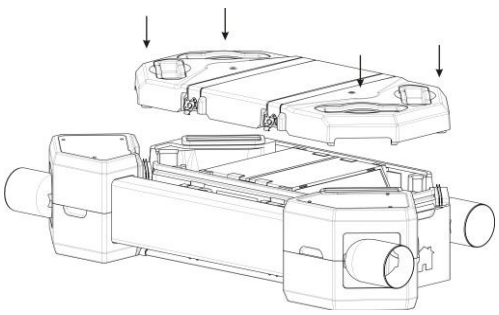
-7-



-8-



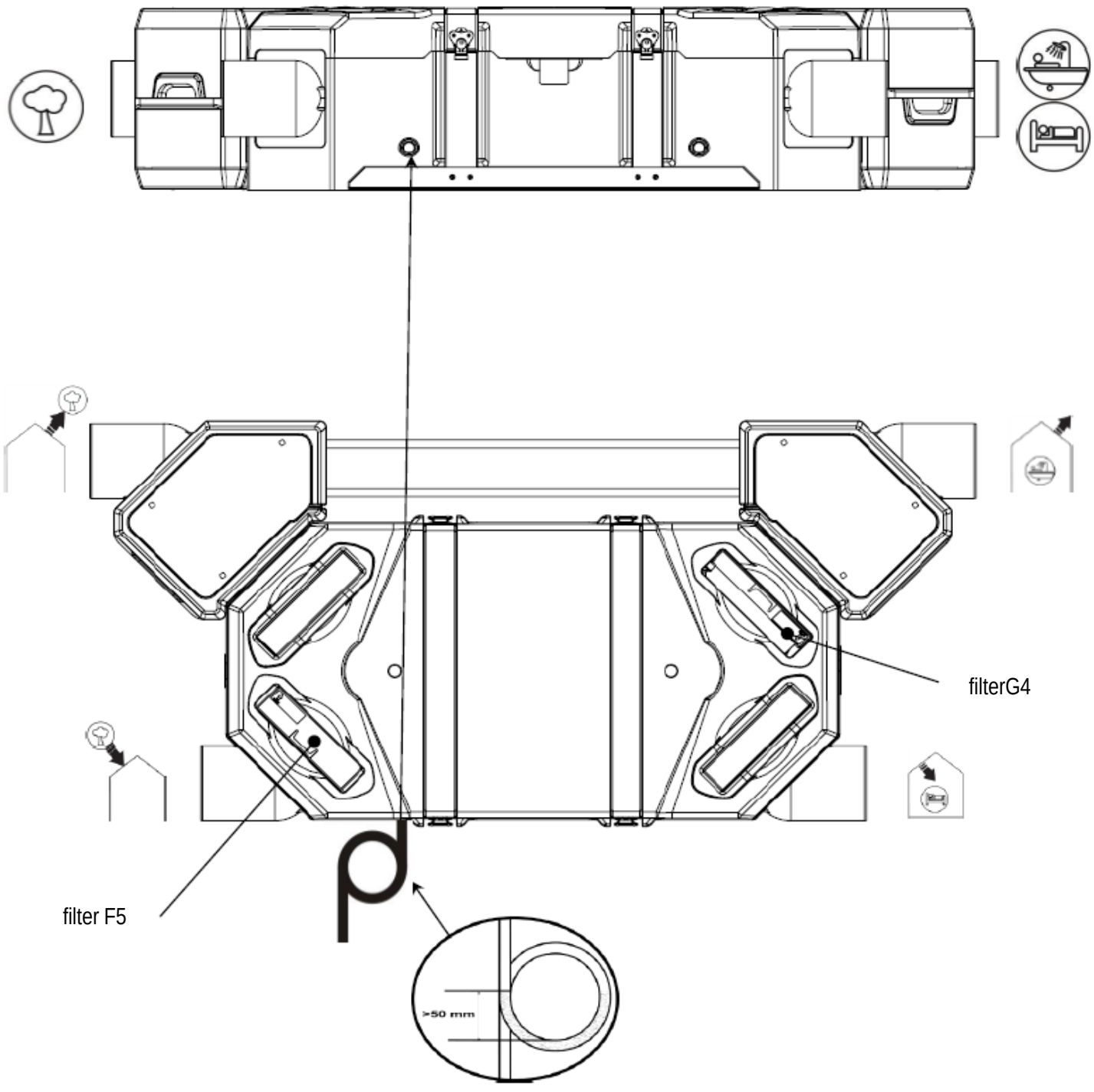
-9-



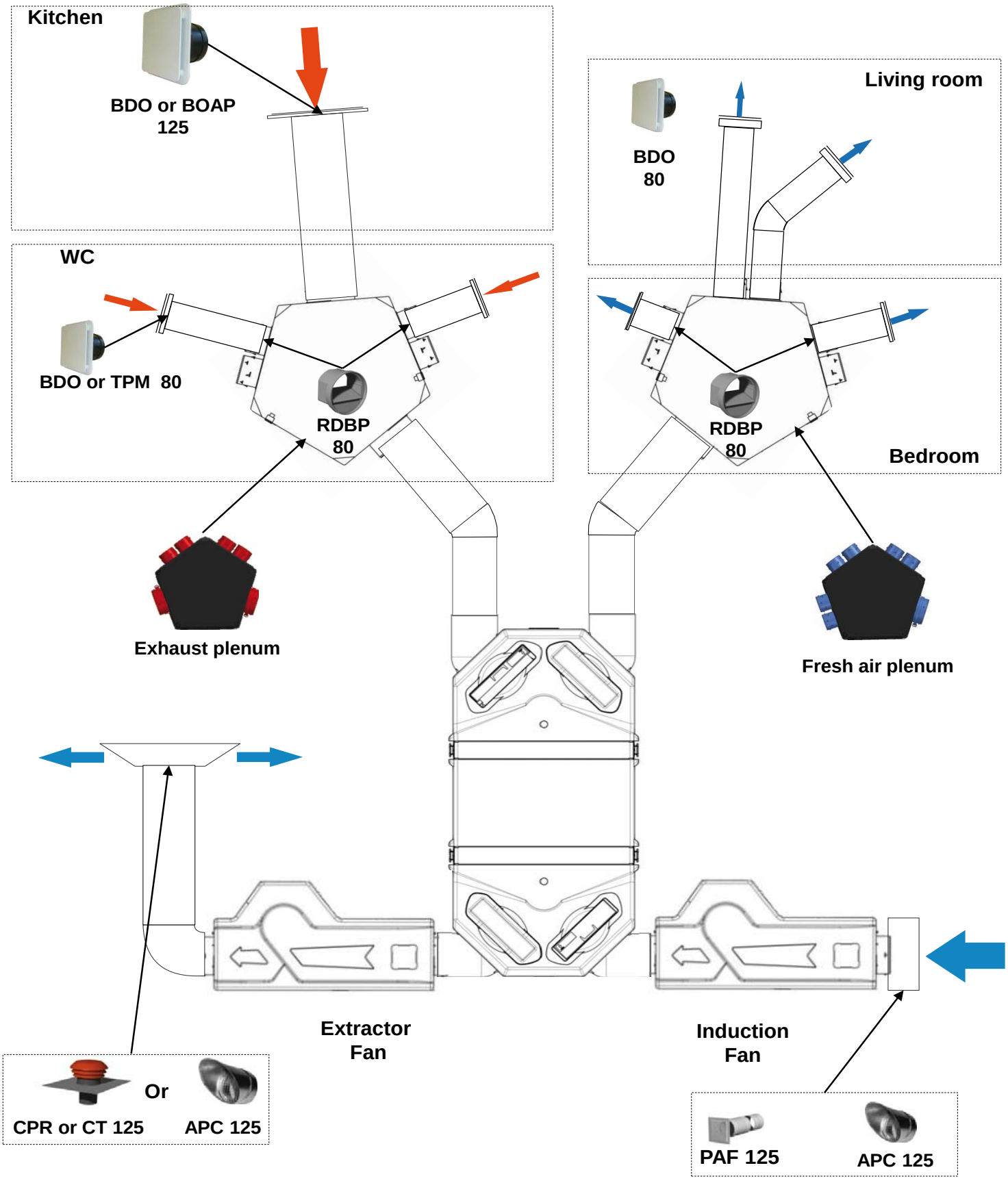
-10-

3.5.f- Wall mounted with an external air inlet on the left (continued):

Not for use in air-conditioned houses.

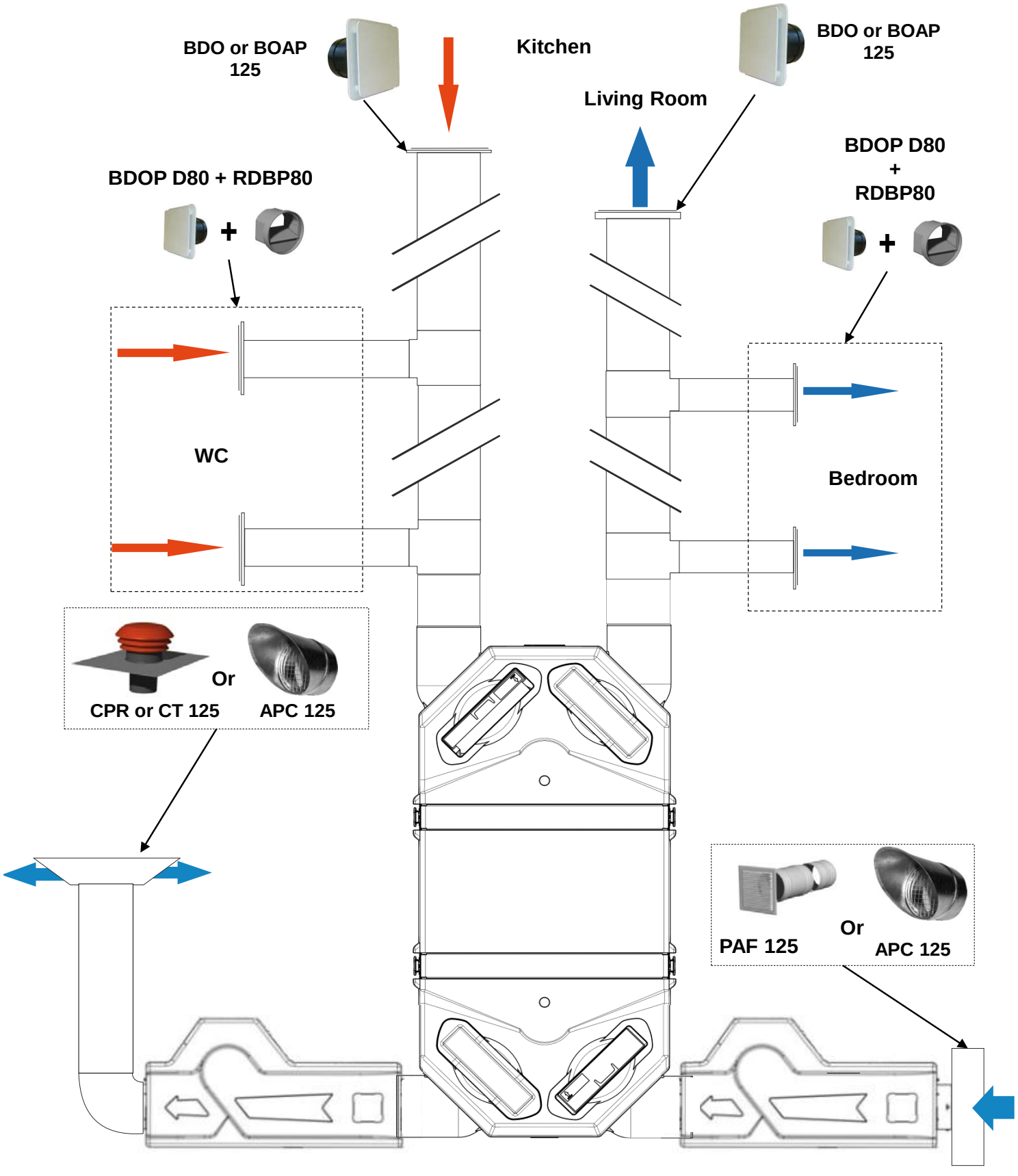


3.6- Example of a “DIVIDED” mount



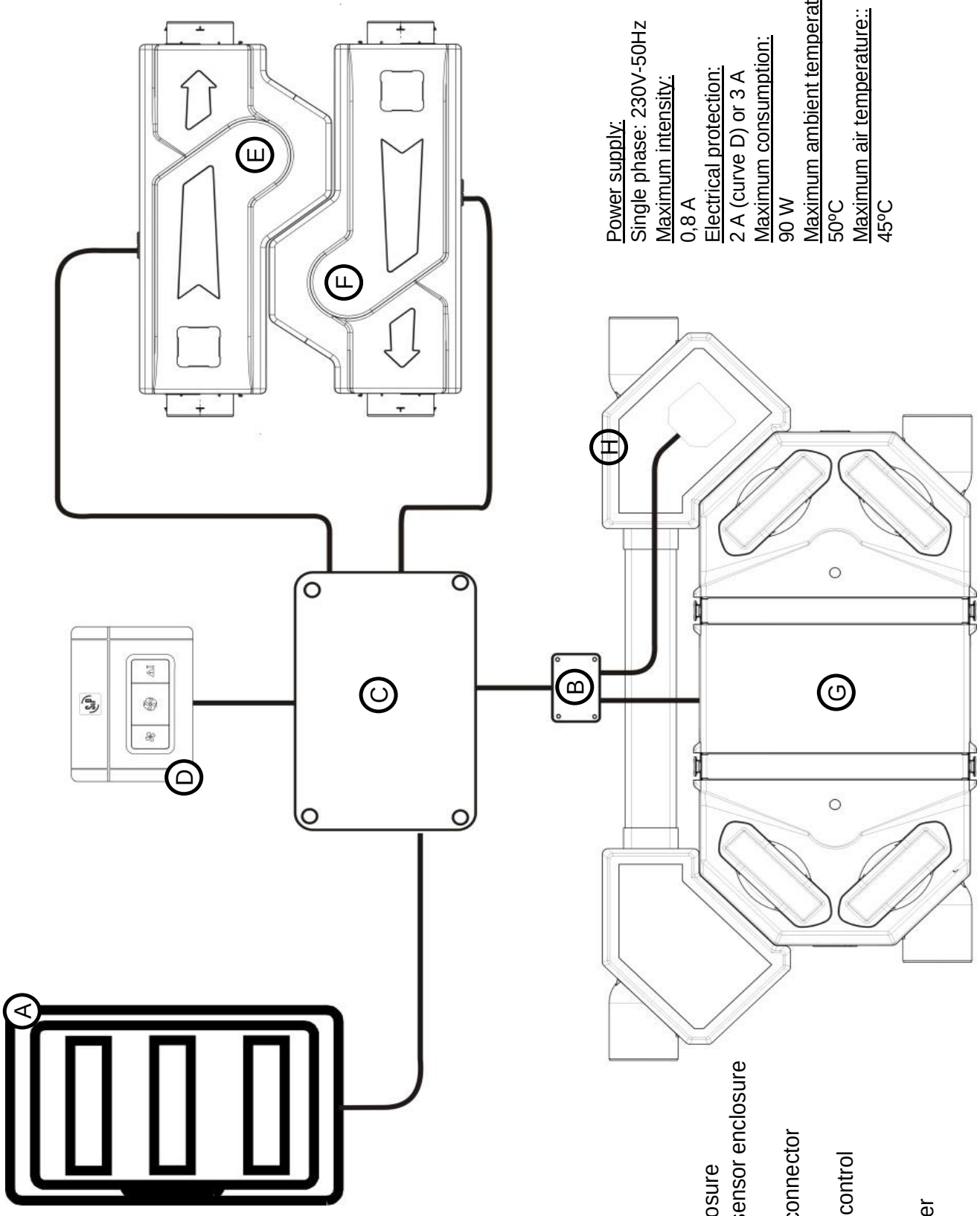
When using an insulated flexible duct, it is extremely important to stretch it well.

3.7- Example of a “SPLIT” mount



When using an insulated flexible duct, it is extremely important to stretch it well.

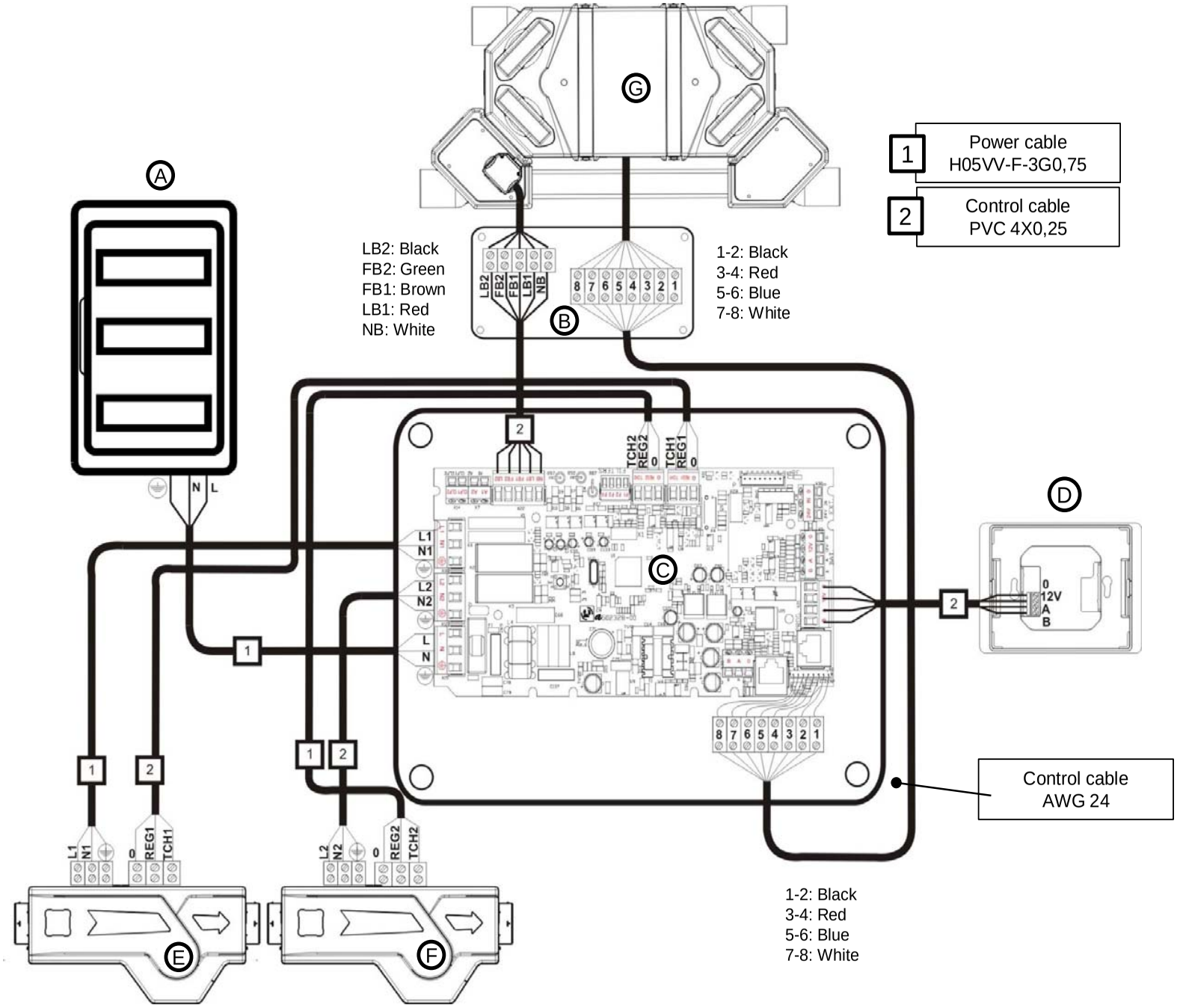
3.8- Electrical connections:



Power supply:
Single phase: 230V-50Hz
Maximum intensity:
0,8 A
Electrical protection:
2 A (curve D) or 3 A
Maximum consumption:
90 W
Maximum ambient temperature
50ºC
Maximum air temperature::
45ºC

A. Electrical enclosure
B. Temperature sensor enclosure + Bypass
C. Circuit board connector housing
D. Wired remote control
E. Extractor fan
F. Induction fan
G. Heat exchanger
H. Bypass

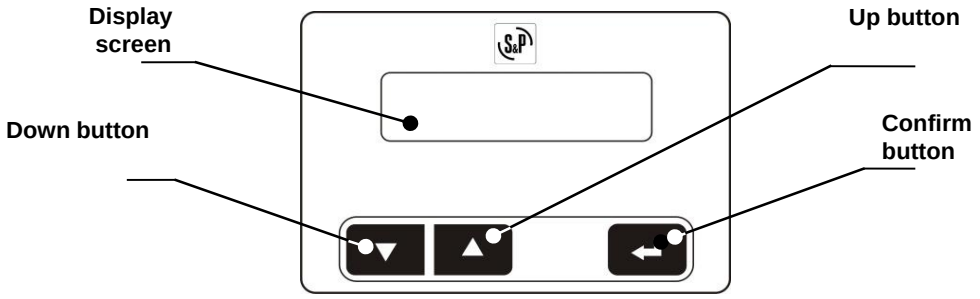
A. Electrical enclosure
B. Temperature sensor enclosure + Bypass
C. Circuit board connector housing
D. Wired remote control
E. Extractor fan
F. Induction fan
G. Heat exchanger
H. Bypass



4- COMMISSIONING

4.1- During installation:

The control panel allows you to adjust the installation settings, and lets you see the different operational settings.



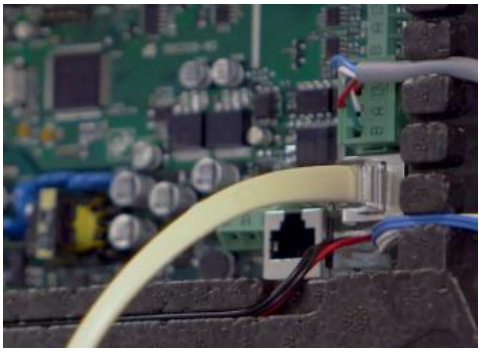
MENU	OPTIONS	VALUES	FACTORY SETTINGS
	Language	English, Francais, Español, Deutsch, Italiano, Nederlands	English

INSTALLATION SETTINGS			
	Dry contact	NO/NC	NO
	Preheating Bat.	Yes/no	No
	Postheating Bat.	Yes/no	No
	Air quality sensor	Yes/no	No
	Connection type	A / B	A
	Units	m^3/h / l/s	m^3/h
	Thermal delay	-15%,…+15%	0
	Air flow rate		
	- LS flow	60,…210 m^3/h	60 m^3/h
	- HS flow / 1/2 hour boost	60,…210 m^3/h	120 m^3/h
	- Free cooling 8H	60,…210 m^3/h	210 m^3/h
	Air quality sensor adjustments		
	Minimum flow air quality sensor 0-10V	60,…210 m^3/h	60 m^3/h
	Maximum flow air quality sensor 0-10V	60,…210 m^3/h	120 m^3/h
	Minimum power air quality sensor 0-10V	0-10V	0
	Maximum power air quality sensor 0-10V	0-10V	10
	Automatic bypass	On/Off	On
	Automatic outdoor temp. bypass	11,…20ºC	+ 12ºC
	Automatic indoor temp. bypass	21,…30ºC	+ 24ºC
	Manual bypass settings	1,…24 Hours	8 H
	Type of defrost	Slow Induction / Stop Induction	
	Preheating Battery		
	- Temperature to turn ON the battery	-15,…5ºC	0ºC
	- Temperature to turn OFF the battery	-5,…10ºC	+ 5ºC
	- Constant temperature	+1,…10ºC	+ 4ºC
	Postheating Battery		
	Constant temperature	12,…30ºC	+ 18ºC
	Reset to factory settings	Yes/no	No

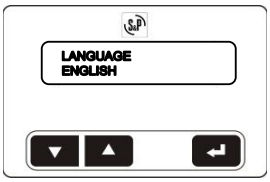
CONSULTING STATUS SETTINGS			
	Current flow	60,…210	
	Defrost	On, Off	
	Batteries	PREheating: On/Off - POSTheating: On, Off	
	Software version	V0.0	
	Extractor fan motor	Error, Ok	
	Induction fan motor	Error, Ok	
	Bypass	Error, Ok	
	Remote control connection	Error, Ok	
	Sensors	Error, Ok Temp. Extraction, Extracted, Intake, Induction	
		Extraction temp.	
		Extracted air temp.	
		Air intake temp.	
		Induction temp.	
			Off

4.1.a- Adjusting the settings:

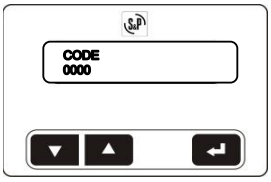
1. To connect the control panel, go into the circuit board connector housing and connect the control panel to the RJ45 jack located on the right side of the circuit board.



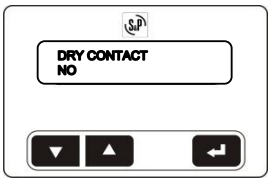
2 Adjusting the installation settings:



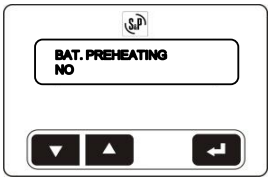
Choosing the language:
Enter with the ↵ key.
Navigate through the options with the ▼▲ buttons and choose the language you want with the ↵ button, then move on to the next step with the ▼ button.



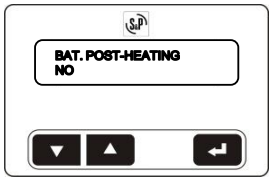
Code: 33
Enter the code using the ▲ button and confirm with the ↵ button, then move on to the next step with the ▼ button.



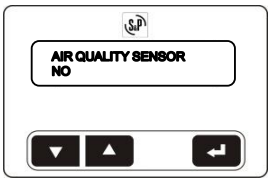
Dry contact:
The circuit board is equipped with a dry contact that can switch to a high flow/boost, controlled by an external sensor (inter, CO2 sensor, battery, humidity). You can change the direction of the dry contact:
NO = Normally Open
NC = Normally Closed
Use the ↵ button and navigate through the different options using the ▼▲ buttons.
Then confirm with the ↵ button.



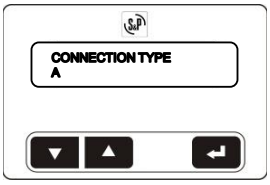
Preheating battery:
If a preheating battery is connected. Use the ↵ button and change the option using the ▼▲ buttons.
Then confirm with the ↵ button.



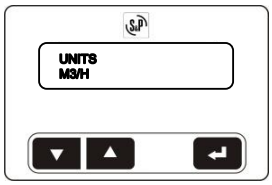
Post-heating battery:
If a post-heating battery is connected. Use the ↵ button and change the option using the ▼▲ buttons.
Then confirm with the ↵ button.



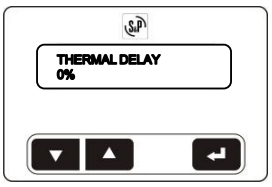
Air quality sensor 0-10V:
If a sensor is connected (for CO2, COV, HR, etc.): Use the ↵ button and change the option using the ▼▲ buttons.
Then confirm with the ↵ button.



Connection type:
Depending on whether an A or B type mount is used, you must confirm the connection.
Use the ↵ button and make any changes using the ▼▲ buttons, then confirm with the ↵ button.



Units:
You can choose to see the airflow in m3/hour or litres/second.
Use the ↵ button, then choose the units you want with the ▼▲ buttons, then confirm with the ↵ button.



Thermal delay:
This setting might apply in two possible situations
1 - When there is an open fire:
In this case, it is necessary to create an additional air intake to compensate for the thermal draft from the chimney. There are two possibilities:

a. Create a specific air supply. If choosing this option, make sure it can be closed well.
b. Add an additional air supply with a FLEXEO corresponding to the flow rate of the thermal draft.

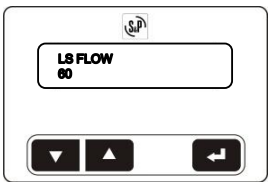
Follow these recommendations:

. Make sure all the doors, windows and hatches are shut,
. Light the fire,
. Measure the difference in air flow until there is a good draft from the chimney.

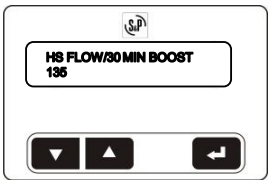
2 If there is an imbalance between the air flow rate and the extraction rate:
This may occur when one of the two networks is used much more than the other.

Use the ↵ button and change the thermal delay value with the ▼▲ buttons, then confirm with the ↵ button.

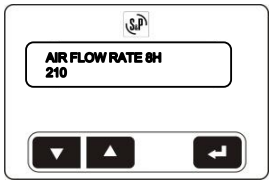
The adjustment should be made to the induction air flow in relation to the extraction rate.



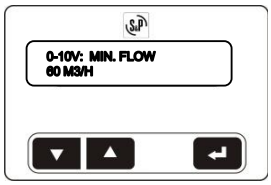
LS flow:
Setting the permanent base flow (or low-speed flow).
Use the ↵ button and choose the flow with the ▼▲ buttons, then confirm with the ↵ button.



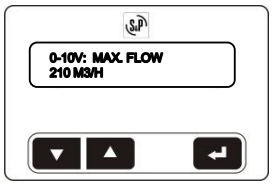
HS Flow/Boost:
Setting the peak flow/½ hour boost (or high speed flow).
Use the ↵ button and choose the flow with the ▼▲ buttons, then confirm with the ↵ button.



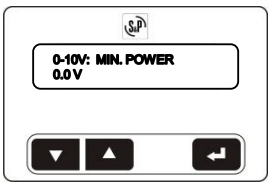
Free Cooling flow – 8 hours:
Setting the high speed flow.
Use the ↵ button and choose the flow with the ▼▲ buttons, then cofirm with the ↵ button.



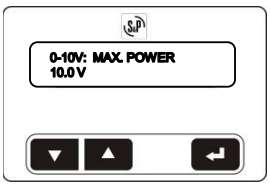
Minimum airflow air quality sensor*:
Setting the minimum airflow.
Use the ↵ button and choose the minimum airflow with buttons ▼▲
then confirm with the ↵ button.



Maximum airflow air quality sensor*:
Setting the maximum airflow.
Use the ↵ button and choose the minimum airflow with buttons ▼▲
then confirm with the ↵ button.

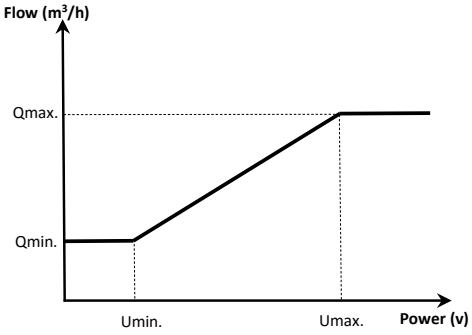


Minimum power air quality sensor*:
Setting the minimum power.
Use the ↵ button and choose the power with buttons ▼▲
then confirm with the ↵ button.

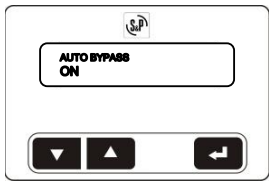


Maximum power air quality sensor*:
Setting the maximum power.
Use the ↵ button and choose the power with buttons ▼▲
then confirm with the ↵ button.

Diagram showing the air quality sensor (0-10V)*



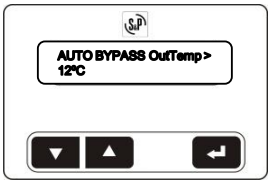
*: Humidity probe, CO2, COV.



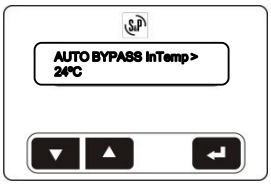
Automatic bypass:
You can enable or disable the automatic bypass.
Use the ↵ button and activate (ON) or deactivate (OFF) with the ▼▲ buttons, then confirm with the ↵ button.
On having avoided the heat exchanger, the 100% by-pass system of the FLEXEO allows the introduction of fresh air in the night without being warmed by the warm air accumulated in the house during the day.
This system works automatically with this conditions:

-Tº inner >1+ Tº outer and Tº inner > +24ºC and Tº outer> +12ºC,

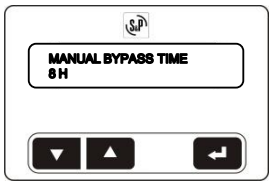
If the function is disabled, You can manually switch to by-pass, by pressing the by-pass button. During this operation it is possible to cancel this function by pressing the by-pass key once more.



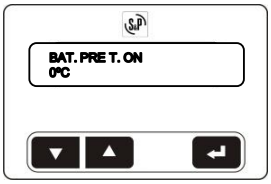
Automatic outdoor temp. bypass:
You can change the outside temperature that activates the bypass.
Factory settings = +12ºC
Temperature range: +11 – +20ºC
Use the ↵ button and change the temperature with the ▼▲ buttons, then confirm with the ↵ button.



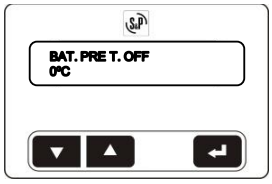
Automatic indoor temp. bypass:
You can change the indoor temperature that activates the bypass.
Factory settings = +24ºC
Temperature range: +21 – +30ºC
Use the ↵ button and change the temperature with the ▼▲ buttons, then confirm with the ↵ button.



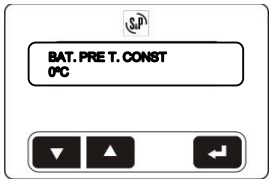
Manual bypass settings:
You can manually change the running time of the bypass.
Factory settings = 8 hours
Time range: 1 – 24 hours
Use the ↵ button and change the running time with the ▼▲ buttons, then confirm with the ↵ button.



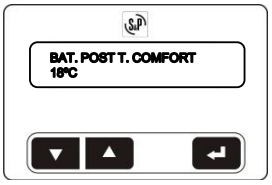
Temperature to turn ON the battery:
Allows you to set the temperature that activates the battery preheating.
Factory settings = 0ºC
Temperature range: -15ºC – +5ºC
Use the ↵ button, then control the temperature with the ▼▲ buttons, then confirm with the ↵ button.



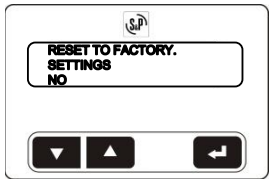
Temperature to turn OFF the battery:
Allows you to set the temperature that stops the battery preheating.
Factory settings = +5ºC
Temperature range: -5ºC – +10ºC
Use the ↵ button, then control the temperature with the ▼▲ buttons, then confirm with the ↵ button.



Battery preheating constant temperature:
Allows you to set the constant temperature that activates the battery preheating.
Factory settings = +4ºC
Temperature range: +1ºC – +10ºC
Use the ↵ button, then control the temperature with the ▼▲ buttons, then confirm with the ↵ button.

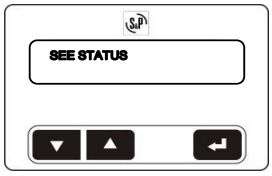


Battery post-heating constant temperature:
Allows you to set the constant temperature that activates the battery post-heating.
Factory settings = +18ºC
Temperature range: +12ºC – +30ºC
Use the ↵ button, then control the temperature with the ▼▲ buttons, then confirm with the ↵ button.

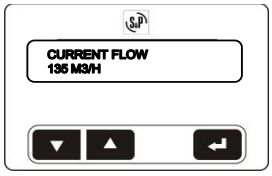


Reset to factory settings:
Resets the FLEXEO.
Use the ↵ button, then choose YES or NO with the ▼▲ buttons, then confirm with the ↵ button.

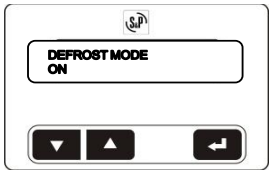
3 Consulting the status settings.



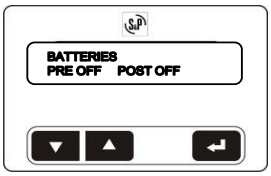
See status:
Allows you to see all the FLEXEO status settings.
Enter with the ↵ key.
To move around, use the ▼ ▲ buttons.



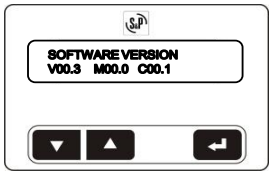
Current flow:
Allows you to see the operating flow



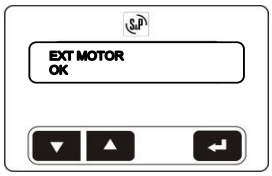
Defrost:
Allows you to see if the FLEXEO is in defrost mode.
ON = Defrost activated
OFF = Defrost deactivated



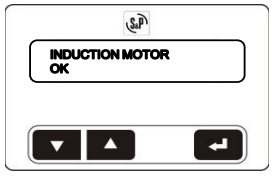
Battery status:
Allows to see if the preheating (PRE) and post-heating (POST) batteries are running.
PRE OFF = Off PRE ON = Running
POST OFF = Off POST ON = Running



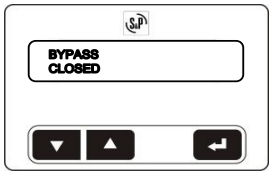
Software version:
Allows you to see which software version is installed.



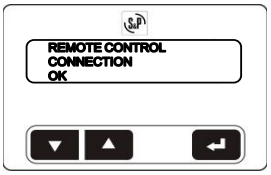
Extractor fan motor:
Allows you to see the status of the extractor fan.
OK: Running
ERROR: Malfunction



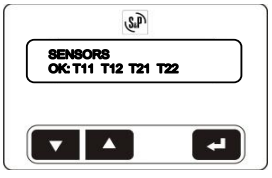
Induction fan motor:
Allows you to see the status of the induction fan.
OK: Running
ERROR: Malfunction



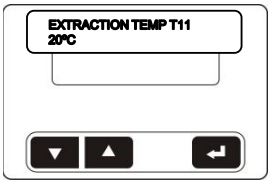
Bypass:
Allows you to see the running status of the bypass.
CLOSED: Standby
OPEN: Running



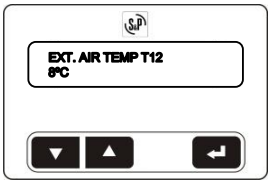
Remote control connection:
Allows you to see the status of the remote control connection. (OK, ERROR).



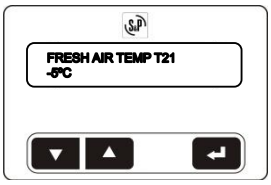
Sensors:
Allows you to see the status of the temperature sensors (OK or ERROR).
T11: Extraction sensor
T12: Extracted air sensor
T21: Air intake sensor
T22: Induction sensor



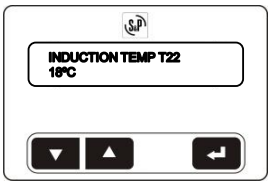
Extraction temperature sensor:
Allows you to see the temperature of the extraction upstream of the heat exchanger.
Temperature range: -30ºC – +50ºC.



Extracted air temperature sensor:
Allows you to see the temperature of the extracted air downstream of the heat exchanger.
Temperature range: -30ºC – +50ºC



Fresh air temperature sensor:
Allows you to see the temperature for the fresh air upstream of the heat exchanger.
Temperature range: -30ºC – +50ºC.



Induction temperature sensor:
Allows you to see the temperature of the induction downstream of the heat exchanger.
Temperature range: -30ºC – +50ºC.

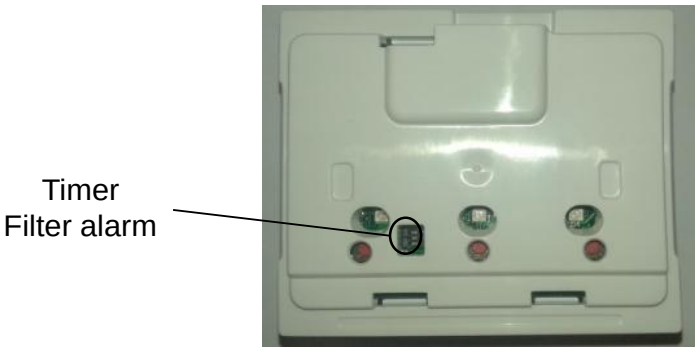
4.1.b- Filter alarm timers:

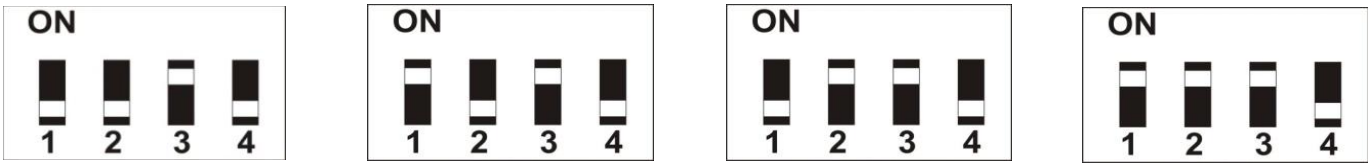
It is possible to adjust the alarm filter timers to 6, 9, 12 or 15 months (factory setting 9 months). A dirty filter is linked to environment outside the house (pollution, pollen, etc.) and to the use of the house (dust, kitchen grease, etc.). It is therefore advisable not change this setting after the second filter alarm. After construction work for example, the air circulated is often laden with dust, and this is not indicative of filters getting dirty through normal use.

After the second change, if you notice that the filters are not clogged, you can increase the timer period. However, if you notice that the filters are very dirty, you can set the alarm for a shorter period of time.

To change the timer period:

- Open the remote control box.
- Adjust microswitches 1 and 2 according to the number of months you wish.



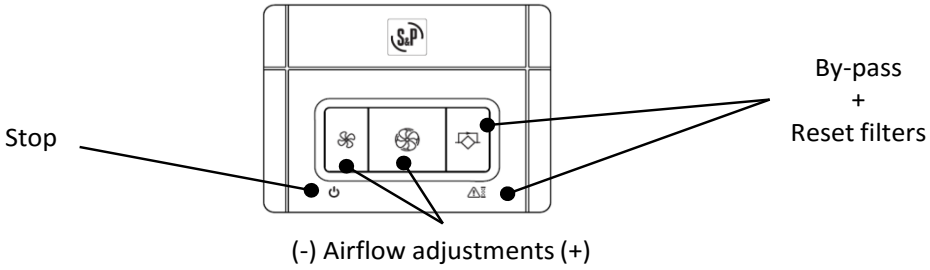


6 months | 9 months (Factory setting) | 12 months | 15 months

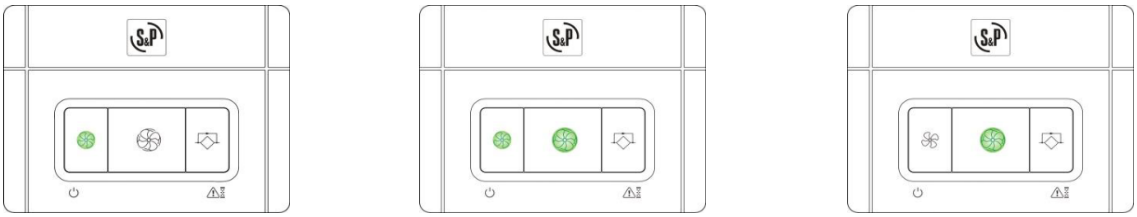
4.1.c- During use:

The remote control allows you to:

- change speed,
- activate the equipment's stop
- manually override the bypass,
- see the filter alarms,
- reset the filter alarms.



Airflow modification (green LED)
Pressing on buttons the airflow can vary as follows:



Minimum airflow | Medium airflow | Maximum airfow

By-pass (flashing green LED):
By avoiding the heat exchanger, the FLEXEO 100% bypass system allows the cool night air to be pumped into the house without it being heated by coming into contact with the hot air that accumulates in the house during the day.
The bypass works automatically under the following conditions:

- Tº inside > Tº outside and Tº inside > 24ºC and T. outside > 12ºC,

You can manually activate and deactivate the by-pass with "by-pass" button.

Stop mode (flashing red LED):
Pressing and holding the left button for 3 seconds to activate the stop mode.
It is not recommended to use unless in exceptional condition.
Home ventilation is essential to maintain acceptable air quality for your health.
You can return to normal mode by pressing the same button.

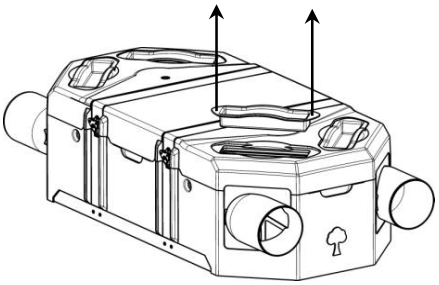
Filter alarms (flashing red LED):
When the filters are dirty, a red LED will appear on the button to the right. In the factory setting, this alarm will be activated nine months after system is started, or after the filters are changed. Change the filters.
If the time period of nine months does not reflect your use of the system (if the filters are too clogged or clean), then it is possible to adjust the time period to 6, 9, 12 or 15 months, (see section 4-1-b)

When the filters have been changed, press the button for 3 seconds to deactivate the alarm and reset the timer to zero.

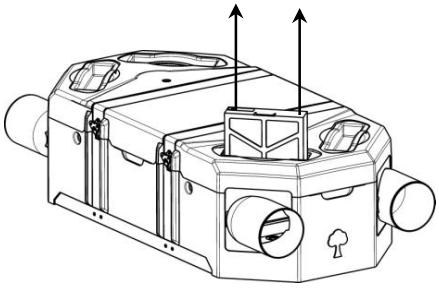
5 - MAINTENANCE

5.1- Changing the filters:

Check, clean or change the filters, where necessary, every 6 months.



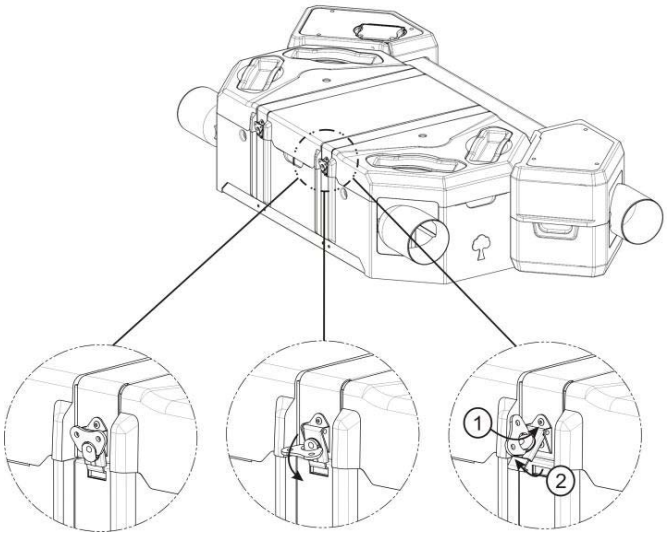
-1-



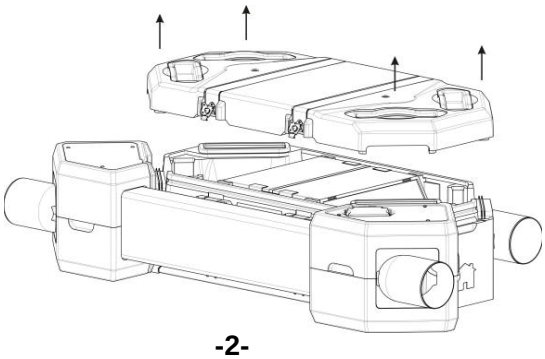
-2-

5.2- Cleaning/Dismantling the heat exchanger:

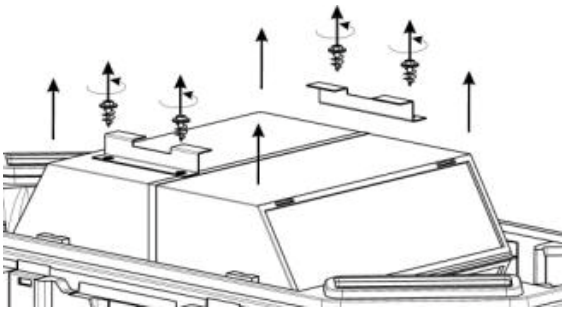
Check and clean the heat exchanger, where necessary, every 5 years.



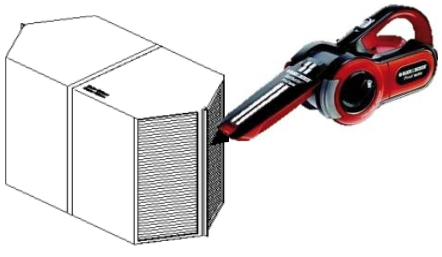
-1-



-2-



-3-

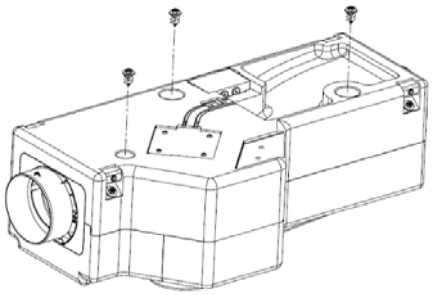


- 4 -

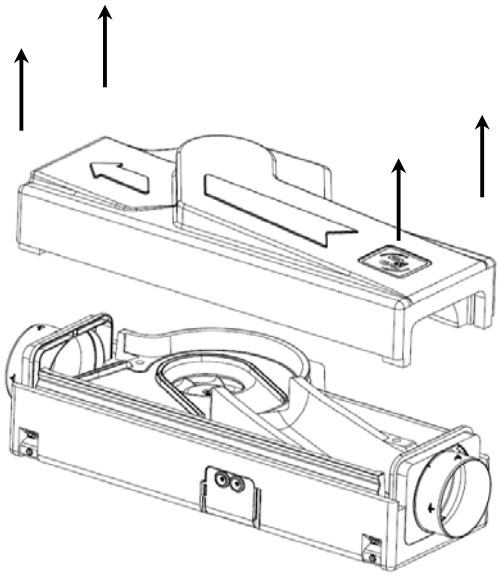
Use a household vacuum cleaner to clean all 4 sides of the heat exchanger.

5.3- Cleaning/Dismantling the fans:

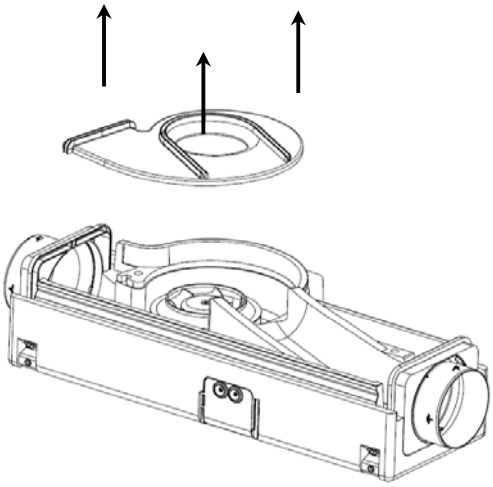
Check and clean the fans, where necessary, every 5 years.



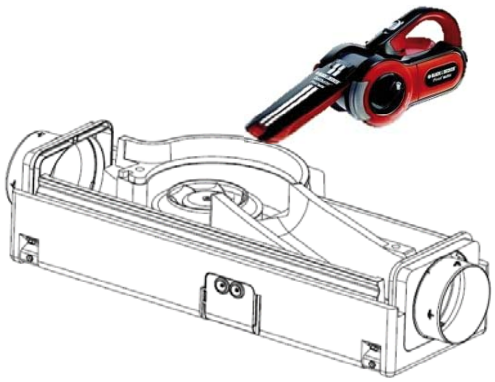
- 1 -



- 2 -



- 3 -



- 4 -

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