



INSTALLATION MANUAL

IDEO² 325 ECOWATT



Summary

1. General information
2. Technical information
3. Installation
4. Characteristics and electrical connections
5. Control of the IDEO
6. Commissioning of the IDEO
7. Change of the communication channel
8. Access to error menu



Before manipulating this device, switch off the unit.
During normal working, never stop the ventilation system.



1- General information

High-performance heat recovery dwelling unit

1.1 - Introduction

This manual is destined for use with the IDEO² 325 Ecowatt high-performance heat recovery unit and its peripheral fittings (conduits, inlets, regulators...).

Its aim is to provide the maximum information and safety during installation, set-up and use.

As our products are in constant development, Soler & Palau reserves the right to modify this manual without prior notification.

1.2 - Guarantee and civil liability

Guarantee

The IDEO² 325 Ecowatt heat recovery unit is guaranteed for three years from the date of purchase. This guarantee includes free supply of spare parts.

This guarantee does not cover:

Assembly and disassembly expenses

Any breakdowns which according to Soler & Palau are due to poor installation, manipulation, negligence or accident.

Any breakdowns occurring after manipulation or repair by third parties without the authorisation of Soler & Palau.

To return a faulty part, the user should first contact the installer.

Civil liability

The IDEO² 325 Ecowatt has been designed for ventilation systems that enable the renewal of air in private homes. Soler & Palau will not be held liable for damage produced by:

- Misuse,
- Normal wear and tear of components,
- Non-observance of the instructions contained in this manual regarding safety, use and start-up,
- The use of components not supplied by Soler & Palau.

1.3 - Safety

General safety rules

After installation, there should be no risk with the security, health or environmental hazards, in compliance with EC regulations. This is also valid for the rest of the products used in the installation.

The following general instructions are important:

Follow the safety instructions to avoid any damage to the fans or harm to people.

The technical characteristics of this manual must not be modified.

The motor fans must not be modified.

The motor fans must be connected to a single-phase 230 VAC / 50 Hz electricity supply.

For the installation to be in compliance with EC regulations, the IDEO 325 Ecowatt heat recovery must be connected to the electricity supply in compliance with current regulations.

The unit must be installed in such a manner that, in normal operating conditions, there is no risk of contact with moving and/or live parts.

The IDEO² 325 Ecowatt complies with regulations on electrical units.

Before any intervention on the unit, always disconnect it from the electrical power supply.

Always use the right tools.

Only use the unit for the purpose it was designed for.

2 – Technical information

2.1 - General definition

The IDEO² 325 Ecowatt provides optimum ventilation for a room with a maximum energy recover. It extracts air from spaces such as (Bathroom/s, WC, kitchen and washroom/s or shower room/s, and supplies fresh air into the main rooms (Living rooms, bedroom/s, office, ...).

The fresh and extracted flows are separated and filtered. Only the energy from the extracted air is transferred to the new fresh air introduced. Exchanger with high efficiency of IDEO² 325 Ecowatt efficiency can reach 95%.

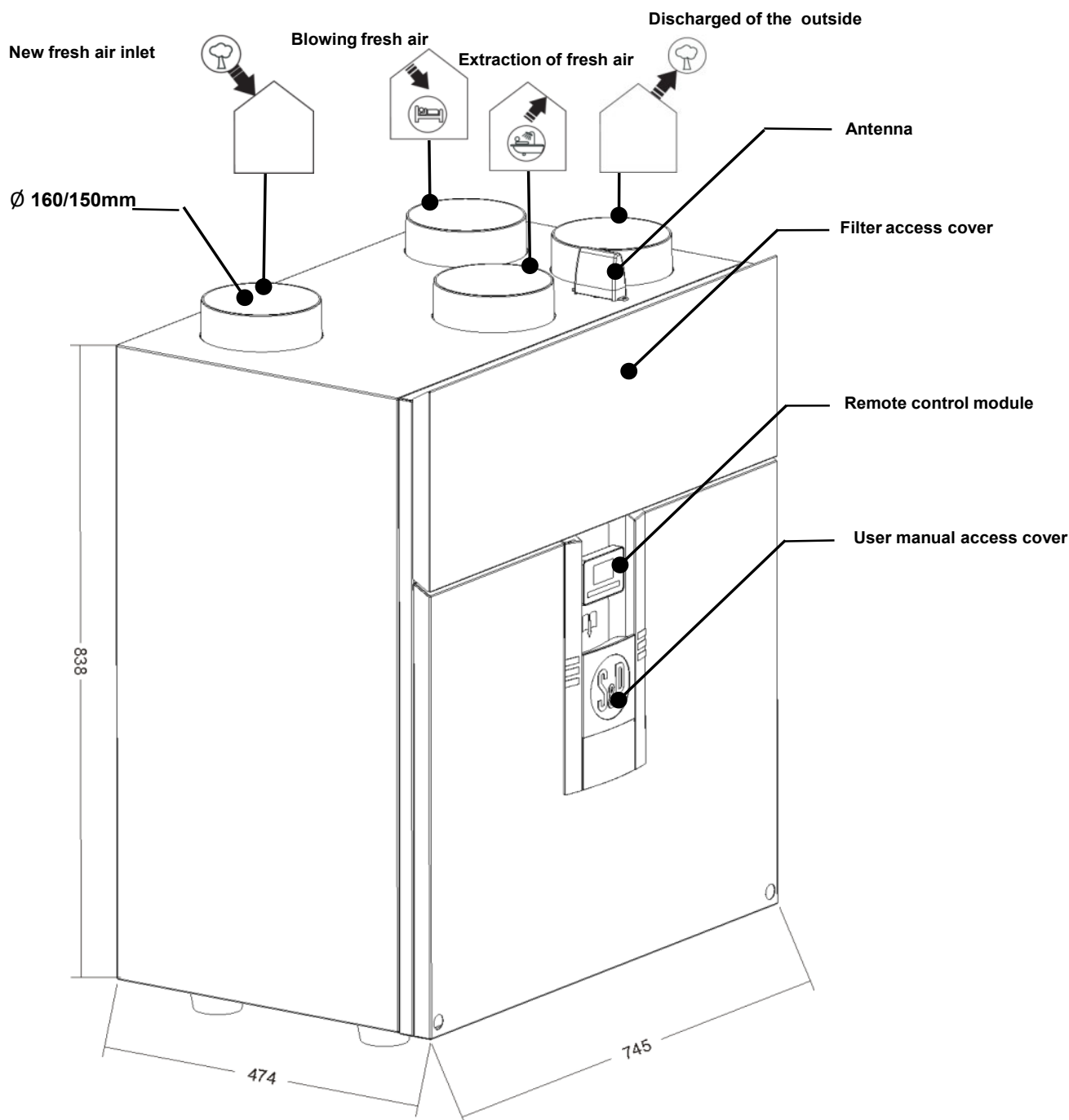
Condensation appears equally at the time of exchange with the introduction of new air.

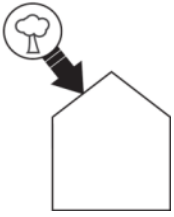
It is collected in the condensate container, which must be connected to the drain.

Avoiding the heat exchanger, the system bypass 100% IDEO allows the introduction of fresh air at night without it being heated by contact with hot air accumulated in the house during the day.

This system operates automatically or can be forced manually (see chapter 5-2).

2.2 – Description of the IDEO-HR





New fresh air inlet :

On this spigot is connected to the outside air inlet.

Be sure to position the fresh air intake (wall or roof) at a sufficient distance from any area with high pollution (Tree, rejection combustor, road, ...).

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



Supply fresh air into the building:

On this spigot is connected the air intake duct to the property.

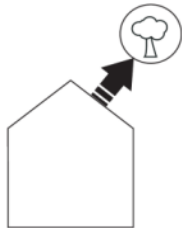
To avoid thermal losses, it is recommended to use insulated ducts for moving the warmed air.



Extract air from the building:

On this spigot is connected the extract duct from the property.

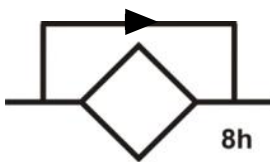
To avoid thermal losses and optimise the performance of the installation, it is recommended to use insulated ducts for moving the warm air.



Discharge of extract air

On this spigot is connected the discharge duct to the outside.

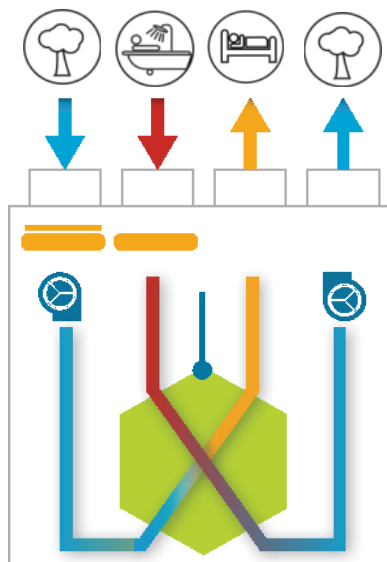
This duct must be hermetic and thermally insulated to avoid condensation both on the inside and outside.



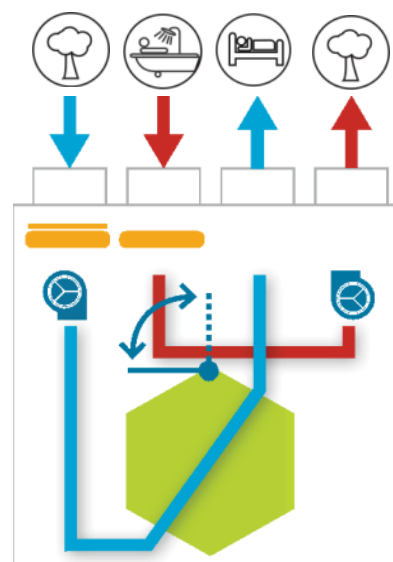
By-pass:

On having avoided the heat exchanger, the system of the by-pass 100 % of the IDEO allows the introduction of the fresh air in the night without being warmed by the warm air accumulated in the house during the day. This system works automatically or can be forced manually (See chapter 5-2).

Function Without By-pass

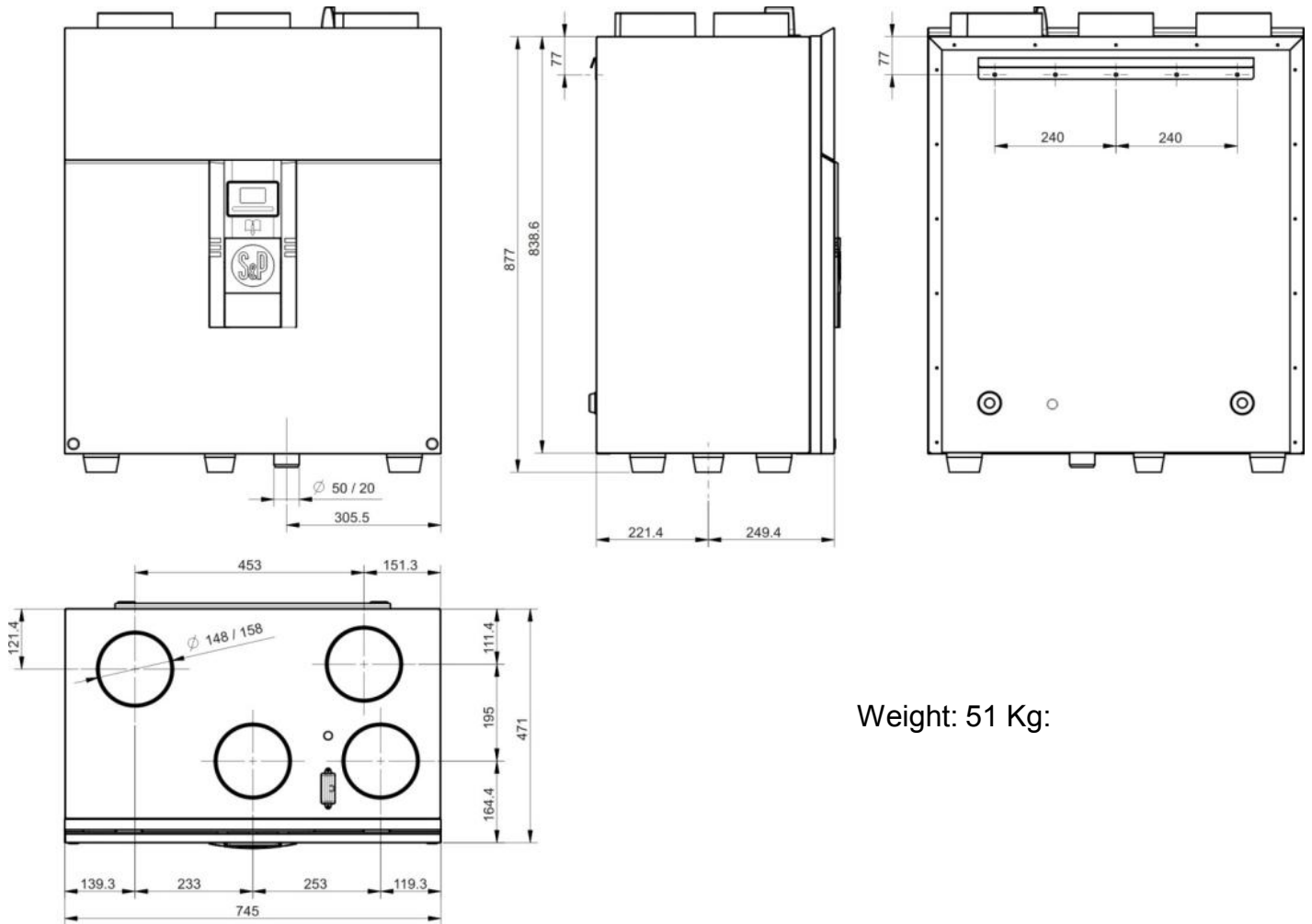


Function With By-pass



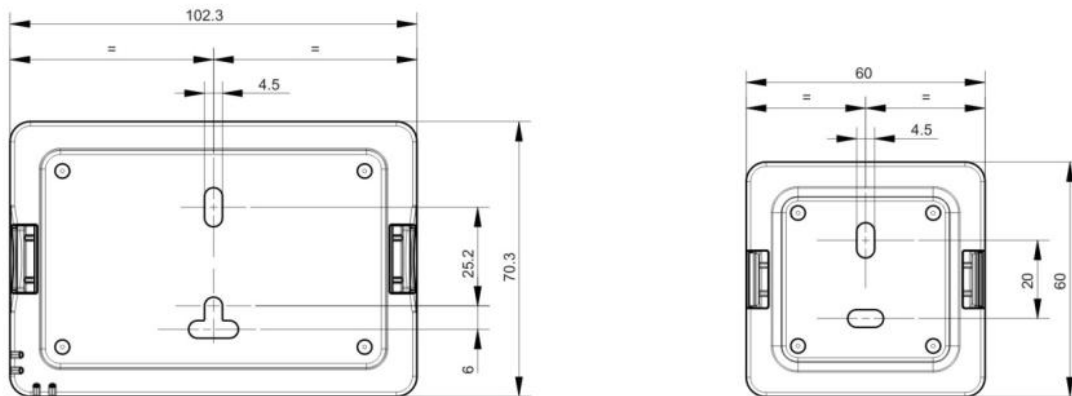
2.3 - Dimensional characteristics:

2.3.a – Central unit:



Weight: 51 Kg:

2.3.b – Remote controls:

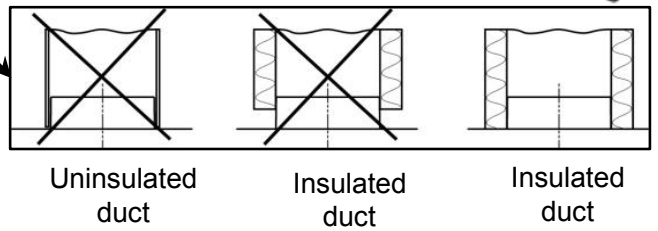
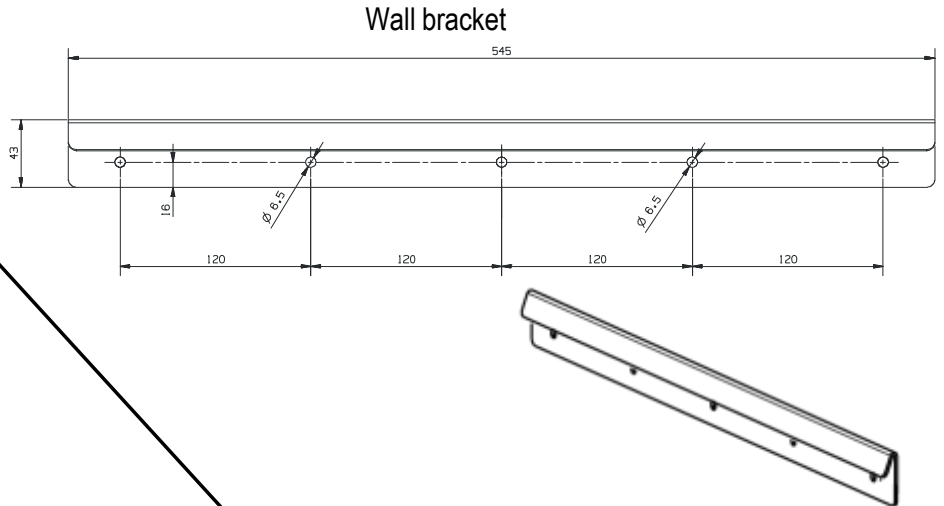
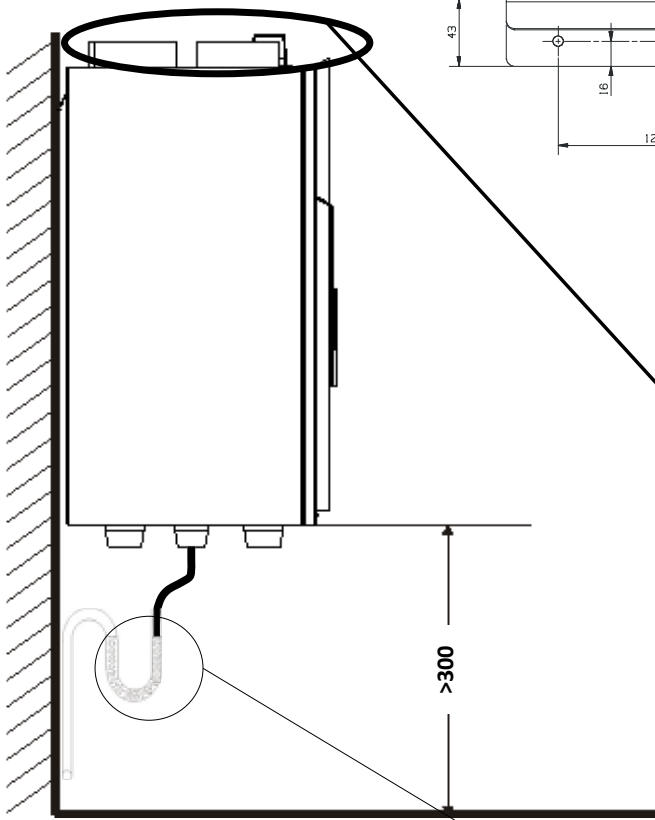



Programmable module

Boost

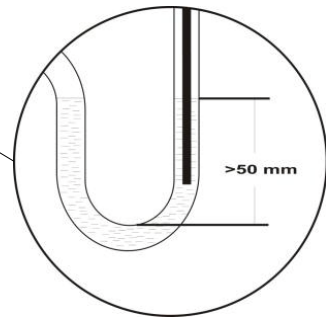
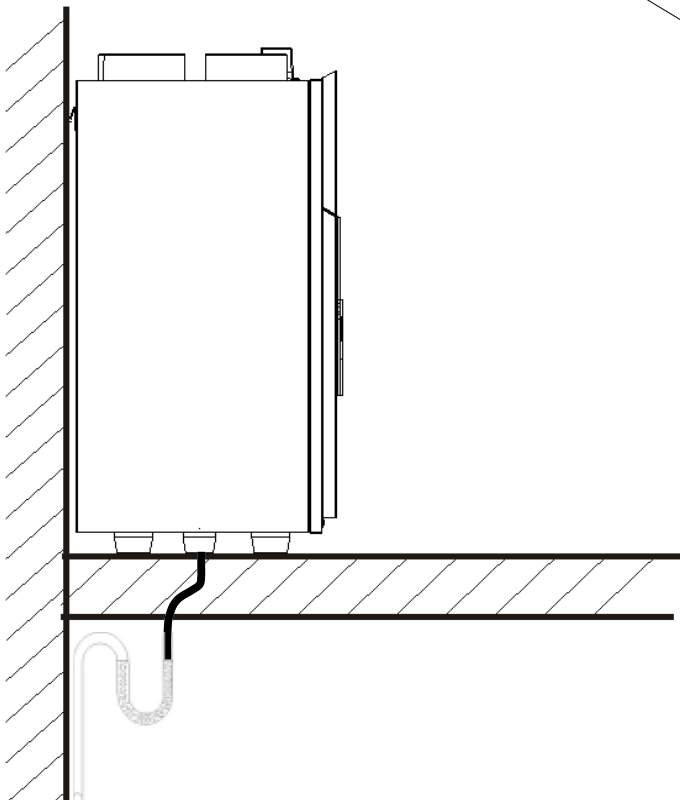
3 - Installation


3.1 - On a vertical wall:



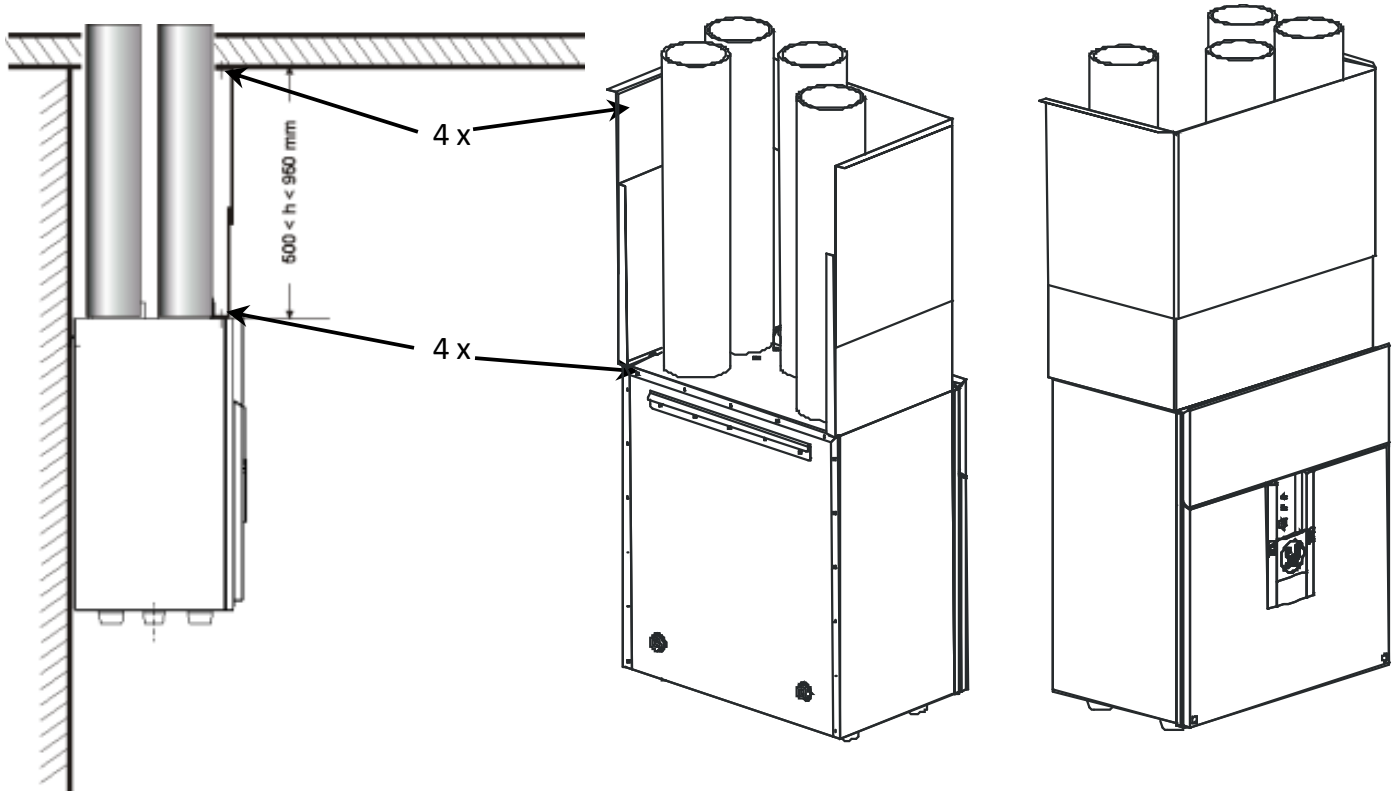
 Ducts should be insulated and fitted perfectly.

3.2 - On the floor:



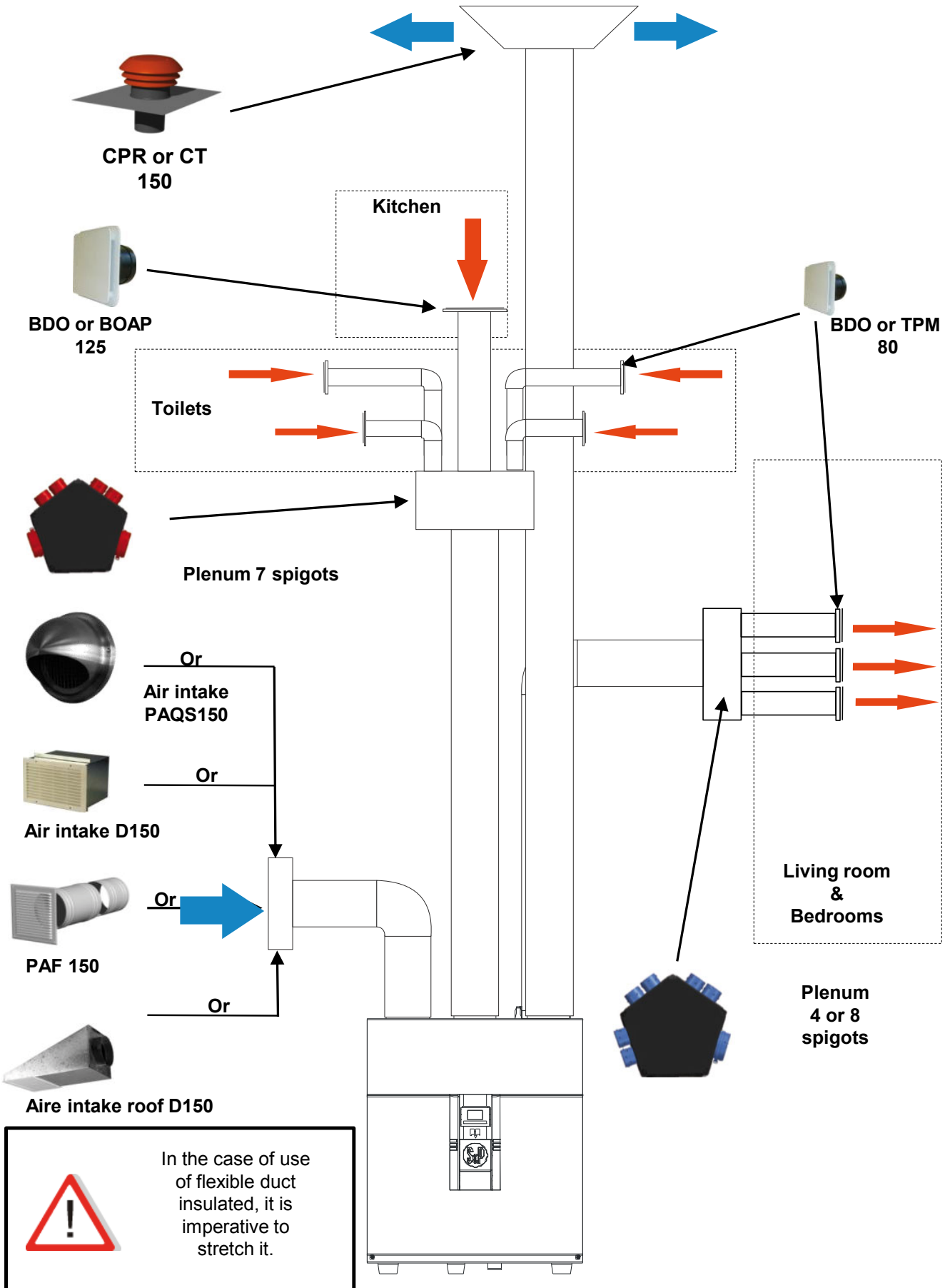
 It is recommended to locate IDEO in heated house space. Otherwise it will be necessary to insulate the condensate drain.

3.3 - Hubcap for ducts (Optional):

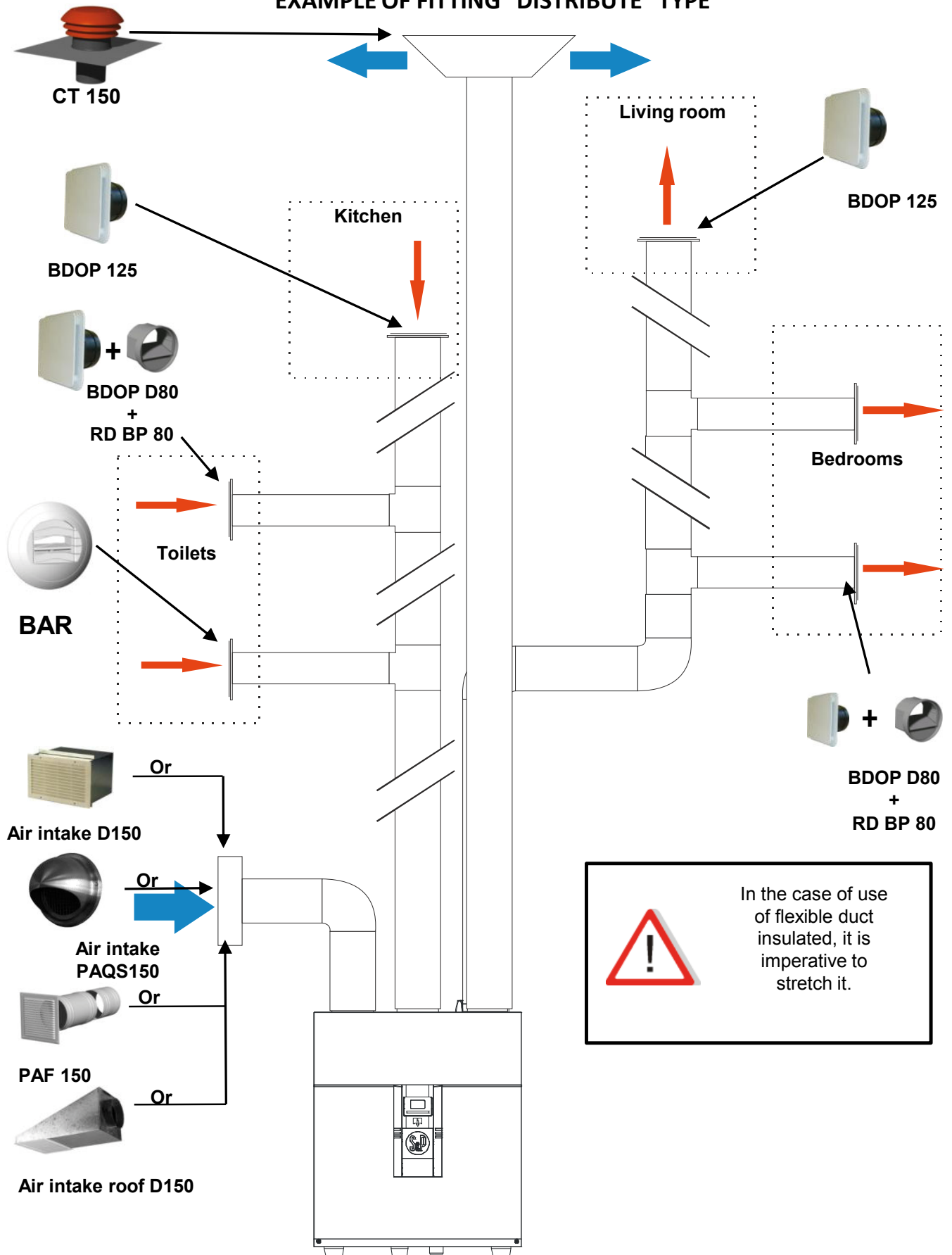


The IDEO heat recovery unit is designed for indoor installation.

EXAMPLE OF FITTING "SPLIT" TYPE

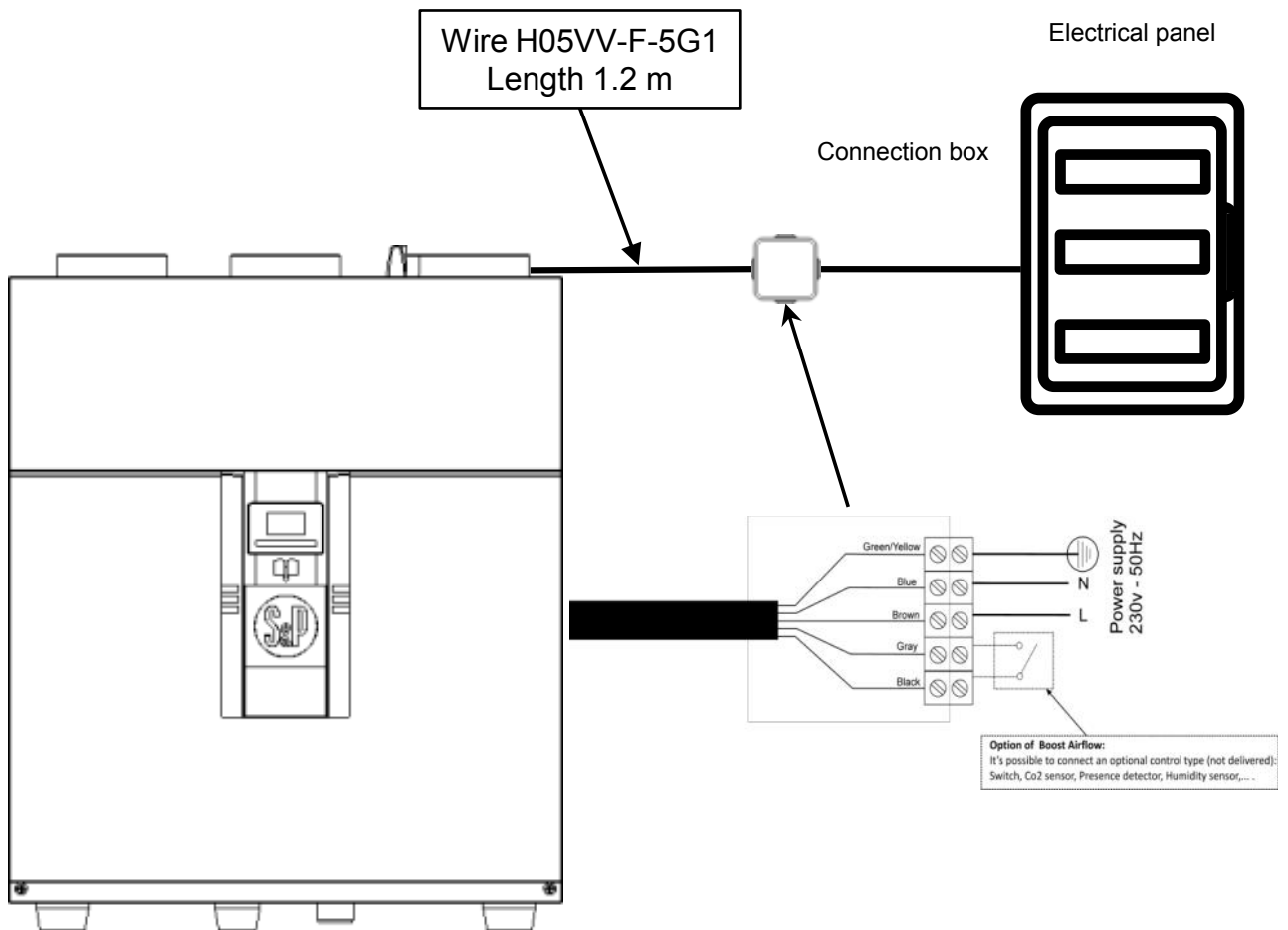


EXAMPLE OF FITTING "DISTRIBUTE" TYPE



4 - Characteristics and electrical connections

Connecting the cable to the network through a sealed connection box.



Power supply :

Single phase 230-50Hz

Electrical protection:

3A

Maximum power:

230 W

Max. ambient temperature:

50°C

Max. temperature of flow:

45°C

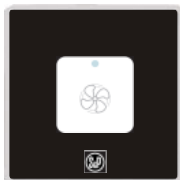


Not commissioning the central until all the ducts are all completely fitted (Air inlet, retaining grille or roof outlet, supply and extraction outlets, ducts and filters fitted)
When started, the central IDEO automatically adapts to the specific characteristics of each installation. If any component is missing or badly fitted, normal operation may be affected.

5 – Control of the IDEO-HR

The IDEO-HR can be controlled from:

- A button that enables the boost airflow for the kitchen to be timed in ½-hour steps.



It is possible to control the central IDEO-HR several push buttons. The life of the battery for normal use (3 times per day on average) is estimated to be 3 years. At each pulse a red LED illuminates for a few seconds to notify the battery level.

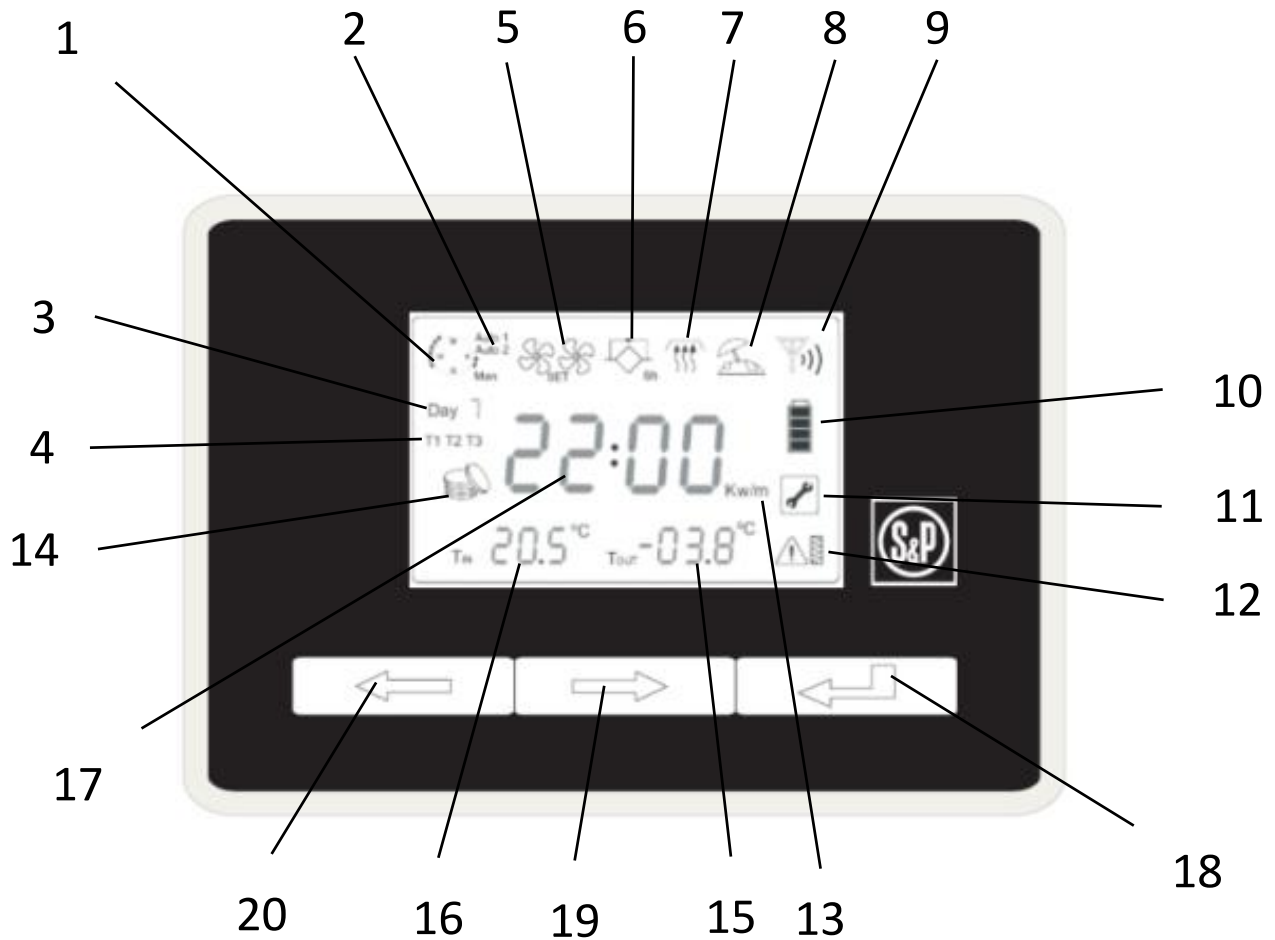
The button has a CR2032 battery.

- The programming module is located on the front of the machine. This remote control can also be located on a wall or placed in a support of the house (table, furniture,...).



The remote control module is in permanent communication with the IDEO central unit. Service life with normal use (consultation by the user 5 times a day on average) is estimated about 3 years. Battery status can be viewed directly on the screen (Reference 10). The module uses two AA – 1.5 V – LR6 batteries.

5.1 . Description of the programming module:



- 1 – Adjustment mode using the clock
- 2 – Programming mode (Auto 1 – Auto 2 – Manual)
- 3 – Day of the week
- 4 – Programming period
- 5 – Ventilation speed (small or large flow)
- 6 – By-pass
- 7 – Defrost mode
- 8 – Absence mode
- 9 – Transmission/reception level
- 10 – Battery level
- 11 – Default mode
- 12 – Change filter
- 13 – Energy saving in kW per month (kWh/m)
- 14 – Instant energy saving
- 15 – Outdoor temperature in degrees centigrade (in the fresh air inlet)
- 16 – Indoor temperature in degrees centigrade (on the remote control)
- 17 – Value display (Hour, flow, kilowatts...)
- 18 – Validation key
- 19 – Move right key
- 20 – Move left key

5.2 . Functions of the programming module: (1)

- On/Off mode:
If you decide to use the product with the On/Off mode you must first adjust it. (according to the regulation by each country).
To enable this feature, before activate the batteries, open the box of the remote control and put the four micro switches on the "ON" positions.
To use the On / Off, navigate with the arrow keys up to 19 or 20 until appears "ON". Confirm with 18. "ON" flashes. Select "OFF" or "ON" using the keys 19 and 20. Confirm with 18.

- Adjustment using the clock:
Setting the time and day referent:
Navigate with keys 19 or 20 to pictogram 1 showing a clock.
Select with key 18. The pictogram will flash.
Adjust the desired hour using keys 19 and 20. Validate with key 18.
The pictogram 3 of day (day) flashes. Choose No. of day (day) depending on your choice of programming.



- Settings airflow of 90 m³ / h (minimum airflow) to 325m³ / h (maximum airflow) according to size of accommodation (see tables below)
Note: The airflow of the supply fan is automatically adjusted with the extract airflow.



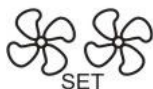
- Minimum airflow:

Navigating with buttons 19 or 20 until pictogram 5 (1 impeller) airflows.

Select with key value 18. The "minimum airflow" flashes.

Set the minimum airflow required using keys 19 or 20 by 5 m³/h depending on the configuration of your home.

Validate with the key 18.



- Maximum airflow:

Use the key 19 to display the symbol "high airflow" (2 impellers). Select with key 18.

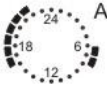
The value "max airflow" flashes.

Set the maximum airflow required using keys 19 or 20 by 5 m³ / h depending on the Configuration of your home.

Validate with the key 18.



- Choice of programming (2):
There are 4 ways to pass the "minimum airflow" to "maximum airflow"
 - 2 preprogrammed (AUTO 1 and AUTO 2)
 - 1 programmable manual (MANU)
 - Boost (timed button).
- Selection and validation of the programs "automatic":



Auto 1

Auto 1 :

Working week with two meals per day, three in the weekend, but starting breakfast two hours later.

Day	T1		T2		T3	
	Start	Finish	Start	Finish	Start	Finish
Monday	6h30	7h30	-	-	19h30	20h30
Tuesday	6h30	7h30	-	-	19h30	20h30
Wednesday	6h30	7h30	-	-	19h30	20h30
Thursday	6h30	7h30	-	-	19h30	20h30
Friday	6h30	7h30	-	-	19h30	20h30
Saturday	8h30	9h30	12h00	13h00	19h30	20h30
Sunday	8h30	9h30	12h00	13h00	19h30	20h30



Auto 2

- Auto 2:

Working week with three meals per day and the weekend, starting breakfast two hours later.

Day	T1		T2		T3	
	Start	Finish	Start	Finish	Start	Finish
Monday	6h30	7h30	12h00	13h00	19h30	20h30
Tuesday	6h30	7h30	12h00	13h00	19h30	20h30
Wednesday	6h30	7h30	12h00	13h00	19h30	20h30
Thursday	6h30	7h30	12h00	13h00	19h30	20h30
Friday	6h30	7h30	12h00	13h00	19h30	20h30
Saturday	8h30	9h30	12h00	13h00	19h30	20h30
Sunday	8h30	9h30	12h00	13h00	19h30	20h30

Validation of the selected program:

Navigate with the arrow keys until 19 or 20 icon 2.

Select "Auto 1" or "Auto 2" depending on your choice. Confirm by pressing 18.

Confirm by pressing again the button 18.

- Selection and validation of "Manual":



Man

This mode allows you to choose depending on your lifestyle, periods of passage "Max Airflow". 1 hour for programming and in the limit of 3 programming per day. Schedules may be different for each day of the week.

Example of programming:

DAY 1 (Monday):

T1: start 6:30h- end 7:30h

T2: no programming

T3: start 19:30h pm - end 20:30 p.m.

Navigate with the arrow keys until 19 or 20 until pictogram 2.

Select "Man." Confirm by pressing 18.

Confirm by pressing again the button 18.

Day 1 flashes. Press 18.

T1 flashes. Press 18.

According to the example, use the buttons 19 and 20 to enter 6:30h. Confirm with 18.

The program will be automatically scheduled for 1H.

T2 flashes. No programming scheduled. Then press 19 to set T3.

Confirm with 18 and use the buttons 19 and 20 to get 19.30. Confirm with 18.

The program will automatically set to 1H

Repeat for each day according to the desired programming.

- Selection and validation of the Boost”

In case any of programmable solutions proposed is adopted, it is possible to manage the “max airflow” with the Boost.

Navigate with the arrow keys until 19 or 20 until pictogram 2.

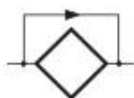
Select and confirm by pressing the button 18 Mode "Manu" without setting schedules.

Button "boost" is equipped with a timer 30 '. Airflow function returns "minimum airflow" at the end of this period.



- Display By-pass operation/ Free cooling operation in summer (6):

Avoiding the heat exchanger, the system of bypass 100% of IDEO allows the introduction of fresh air at night without it being heated by contact with hot air accumulated in the home during the day. The by-pass operates automatically if these three conditions are true:



$$T^{\circ} \text{ out} > 12^{\circ} \text{ (modifiable)}$$

$$T^{\circ} \text{ in} > T^{\circ} \text{ out}$$

$$T^{\circ} \text{ in} > 24^{\circ}\text{C} \text{ (modifiable)}$$

It is possible to program a specific rate when the By-pass is in operation. (see paragraph forced march).

When the bypass is running, the pictogram (6) appears.

- Forced commissioning of the by-pass (6):

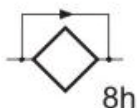
If you want to have the opportunity to manually force for a period of 1 changed to 24 hours (factory setting 8 hours).

You can also change the airflow when the bypass is in operation. Navigating with buttons 19 or 20 until 6 pictogram bypass. Select with key 18. You can change the operating time with the keys 19 and 20 . Confirm with 18 .

Select ON using 19 or 20 keys. Confirm with 18. You can change the speed by pressing 19 and 20

At any time you can disable bypass forced. To do this, Navigate with the buttons 19 or 20 until 6 pictogram bypass.

Select with key 18. Select OFF using keys 19 or 20. Confirm with 18.





- Activation of absence mode (8):
During a period of prolonged absence, you can reduce the airflow of ventilation (Half mini airflow).
To do this, navigate with the buttons 19 or 20 until 8 mode pictogram absence. Select with key 18. The icon flashes. Confirm with 18.



- Display of the saving (14):
The IDEO-HR enables you to view at any time gain Kilowatts per month that brings the heat recovery system compared to a conventional single stream. Hold the button 18 to display the gain.



- Level of emission / reception of the remote control (9):
The remote communicates continuously with IDEO-HR (868 MHz). The level of transmission / reception allows you to validate the quality of the signal.
If it is zero you can order a module more powerful.
Emission level standard antenna: 150 meters in open field
Optional antenna emission level: 200 meters in open field

- Reading temperatures (15 and 16):
Temperatures “T in” and “T out” indicate the temperatures measured:

- ✓ T in: Internal temperature from the remote control.
- ✓ T out: outdoor temperature from the outdoor fresh air intake.

- Terms of icon display filters (12):
This icon appears when one or more filters are dirty and should be cleaned or changed.



- ✓ F1 = Filters on the supply air
- ✓ F2 = Filters on the extract air

The duration of the fouling up can change depending on the conditions of use and the area in which your home is located (what level of outdoor pollution is industrial, road or vegetable).

Generally the duration change between 6 and 12 months.

Warning: If this icon appears at the start or after a few days, this indicates that the ductwork is too complex (loss of excessive loads) and obliges the IDEO to work Hereafter abilities).



- Terms of the error icon (11):
This icon appears when a component is out of service (motor, sensor, sensor,). Or the IDEO detects an error in the system (leak on the network, plug, ...). To know the meaning of the error code displayed, refer to Chapter 8.



- Terms of the automatic defrost icon (7):
The IDEO has an automatic defrost system performance and cost. The system automatically starts the operation before the temperature of the extraction system and downstream of the exchanger is negative. Supply airflow is then reduced. In case of extremely low temperatures can stop blowing. When the temperature returns to positive supply airflow returns to 100%.



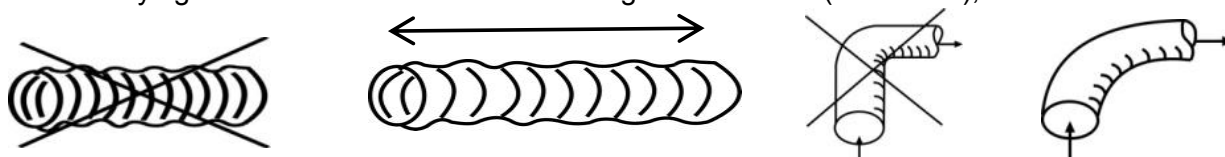
In regions where temperatures are regularly negative or can fall below -10°C , it is advisable to install a preheating battery.

6 – Commissioning of the IDEO

In order to commissioning your installation, it is necessary to follow the following process:

1. Check that all the installation components are in their proper place and connected:

- Air intake make with insulated duct and properly connected (do not use air intake fitted with protection guard),
- Supply discharge and extraction ducts make as insulated ducts and properly connected,
- Supply and extract valves connected,
- Air volume regulators fitted in the correct direction (if installed),
- Air discharge executed in insulated duct and connected to the exterior (use a roof ventilation terminal or a discharge outlet without protection guard),
- Very tight flexible insulated ducts and long-radius bends (if installed),



- Check that the spigots not used on the plenums are properly sealed off (if installed),
- Condensate exhaust properly connected (siphon),
- Check that all the connections are really airtight (on the, IDEO on plenums and on plugs)
- Check the calibration of the electrical protector (3A)

2. Switch on the IDEO,

3. Set the time and the day,

4. Set the minimum and maximum airflow,

5. Choice of mode (auto 1, auto 2, manual or boost),

6. Select the bypass mode,

7. Set the type of external switch (if installed), “NO” for Normally Open and “NC” for Normally Closed (see Chapter 6.1),

8. Check the transmission/reception level between the remote control and the IDEO. In the case of a low level, it is possible to install a more powerful antenna. In the case of the presence of other devices functioning by radio frequency, there may be interference problems which can affect the IDEO's proper functioning. If you notice instances of irregular functioning, we advise you to change the communication channel (see Chapter 7)

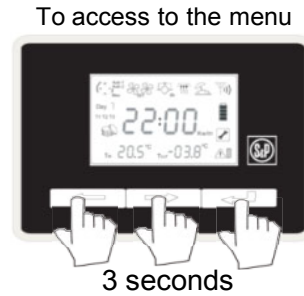
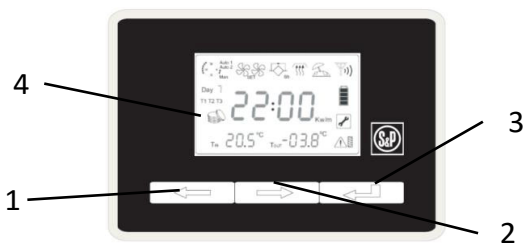
9. Make the test pressure drop of the system (see Section 6.1).

An unsatisfactory test result (I02) may be caused by the following:

- The installation is complex with too many pressure drops. In this case, you must improve the ductwork by limiting the number of bends and excessive lengths. Use the long-radius bends.
- The installation is make with flexible ducts. In this case, check that the ducts are really stretch and/or no ducts are crushed.

6.1 - Access to installation menu

Accessing to this menu allows to check and adjust the IDEO's parameters of each installation.



- (1) – Left scroll key (-)
 (3) – Validation key

- (2) – Right scroll key (+)
 (4) – Display area



Parameter blocking (airflows, time etc.):
 OFF: Parameters that can be modified by the user.
 On: Parameters that cannot be modified by the user.



Position switch:
 nC: normally closed
 nO: normally open



Indoor temperature parameter ByPass
 Factory setting: 24°C
 Adjustment range from 21°C to 30°C



Outdoor temperature parameter ByPass
 Factory setting: 12°C
 Adjustment range from 11°C to 20°C



Test of the installation pressure drop. Test executed at 120m³/h
 ON: Activated - OFF: Disactivated
 I00 = Installation OK
 I01 = Installation acceptable
 I02 = Installation beyond limits (without fouling up of filters).



Operating point of the installation test. Factory setting. 37%=120 m³/h.
 26%=90 m³/h 37%=120 m³/h 44%=150 m³/h 53%=180 m³/h
 62%=210 m³/h 70%=240 m³/h 80%=275 m³/h



Speed limit for fouling up filter alarm.
 Factory setting: 2750 rpm.
 Max: 2850 rpm.



Temperature display inside the heat recovery unit.
 LEFT: "T in" = interior T (on extraction)
 MIDDLE: exterior T (air intake).
 RIGHT: T out " = discharge T (to the exterior)



Choice of communication channel between the remote controls and IDEO. Factory setting = Channel 0
 Up to 64 (from 0 to 63).
 To modify the channel, see Chapter 2.9.



Power of communication between the remote control and the IDEO.
 Must be more than 50% to a good working.



Reset of the factory settings.



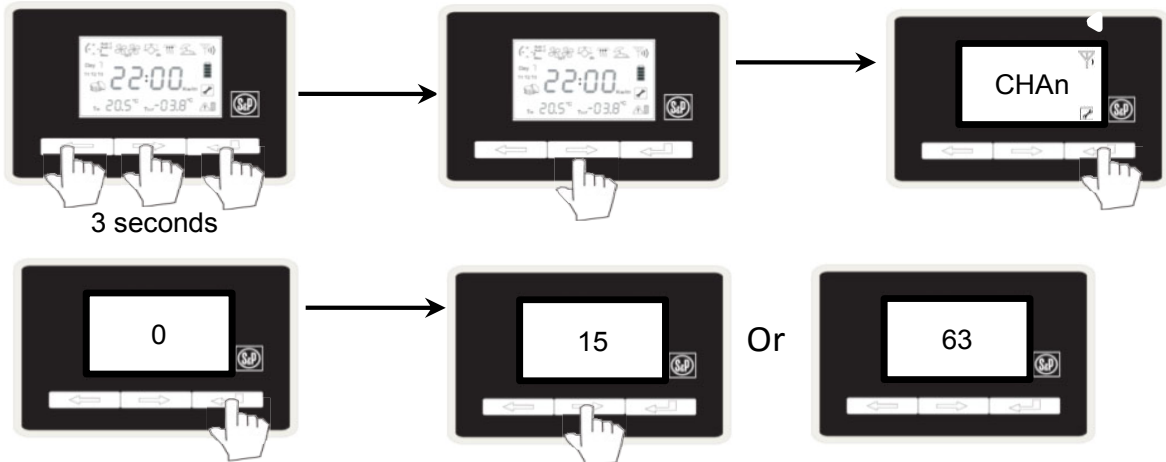
Identification of software version remote control



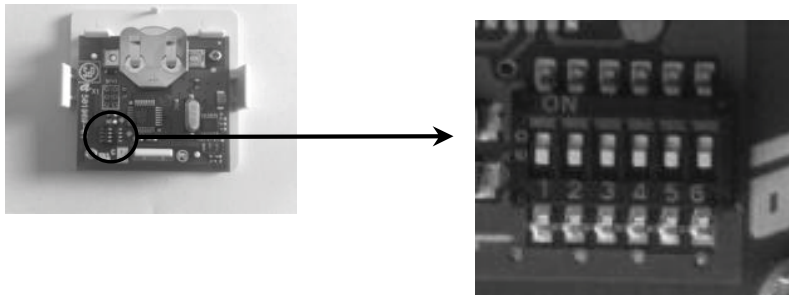
Identification of software version remote control central unit.

7 – Change of the communication channel

7.1 - On the programming module (15 channels - 4 micro-switches and 64 channels - 6 micro-switches).



7.2 - On the boost (see coding on following page). **Remove the battery.**



7.3 - On the central module:



Before taking any action, switch off the unit.

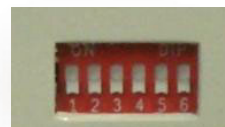
For taking account of the change of channel, the module must not be switched on.

1



Open the front (six screws)

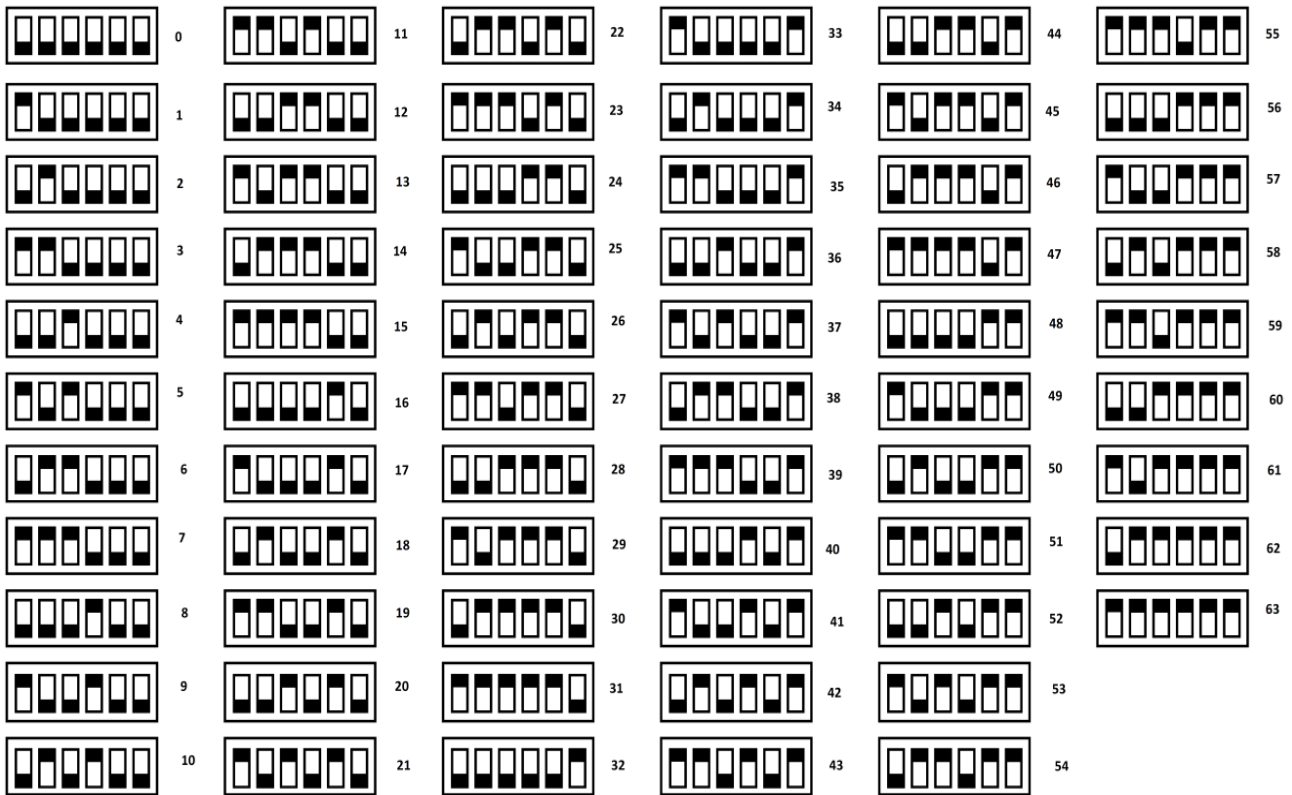
2



Take out the central module.

7.4 – Code switch setting

0-64 channels model:



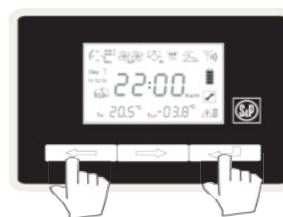
8- Access to error menu

Access to this menu allows to know the type of error.

Attention! This menu may only be accessed when the spanner icon is present.



To access to the menu



3 seconds

(1) – Error icon

- E--: No error
- E0: Communication error
- E1: Supply motor error
- E2: Extract motor error
- E3: By-pass error
- E4: Channel error
- E5: Error of the air intake temperature sensor
- E6: Error of the extract temperature sensor
- E7: Error of the air discharge temperature sensor.



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