



# SAT-EC Exhaust fan

ITEM. NO. 120390, 120391, 120393, 120488, 121165

**EN**

## **INSTALLATION AND OPERATION INSTRUCTIONS**

SAT ventilation system

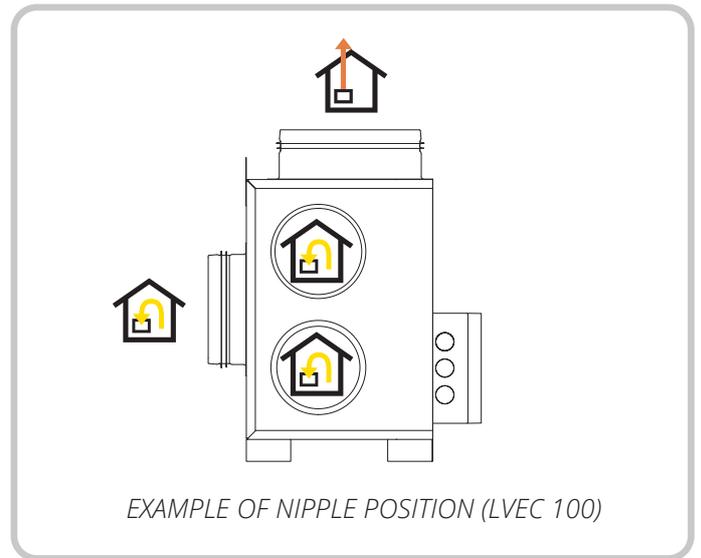
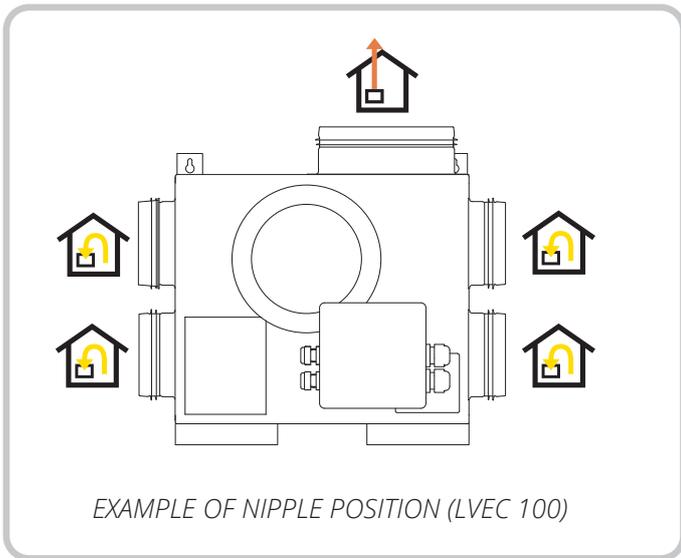
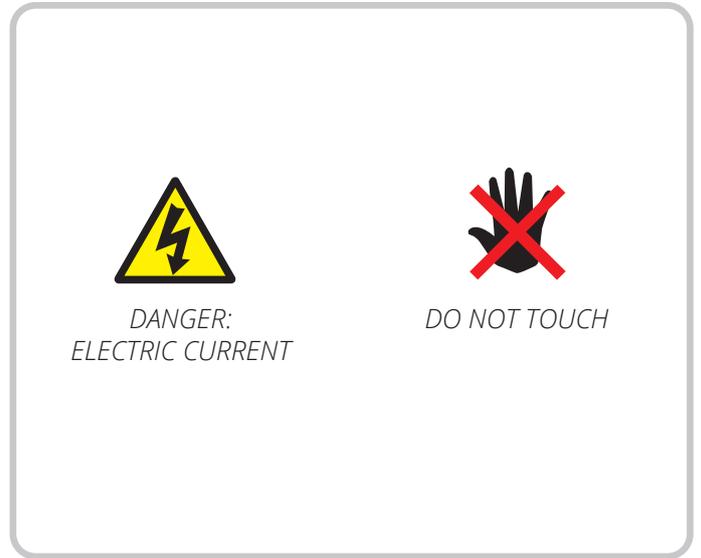
**EN** *Our products are subject to continuous development and we therefore reserve the right to make changes. We also disclaim liability for any printing errors that may occur.*

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Symbols used

These products are marked with a number of symbols that are used for labelling on the product itself and in the installation- and user documentation.



 **DANGER!** When text is written in this colour, it means that failure to follow the instructions may result in serious or even life-threatening injury.

 **CAUTION!** When text is written in this colour, it means that failure to follow the instructions may result in poor utilisation rates or technical limitations in the products.

 **ATTENTION!** When text is written in this colour, it means that failure to follow the instructions may result in material damage.

 **INFO!** When text is written in this colour, it means that it contains important information.



## SAFETY INSTRUCTIONS



- In order to avoid the risk of fire, electric shock and injury, it is essential to read all safety and maintenance instructions and all warning texts before starting to use the unit.
- All electrical connections must be carried out by qualified electricians. If the power cable should be damaged, it must be replaced by the manufacturer, the manufacturer's service agent or a correspondingly qualified person.
- The fan must not be used for exhaust air containing flammable or readily combustible gases.
- The air must not be released into exhaust air ducts used for exhaust air from units that burn gas or other fuel.
- Accessible parts may become hot when used with food preparation equipment.
- Do not flambé under the cooker hood.
- The fitter is responsible for performing a general safety and function assessment of the system.
- Make sure that the screws for the fixing eyes are firmly tightened so that the product cannot work loose.
- Connect ducts to the fan with screws or hose clips.
- Follow the currently applicable regulations for exhaust air.
- This unit can be used by children over the age of eight and by persons with reduced sensory capacity or physical or psychological function, as well as by persons lacking experience or knowledge, as long as they are



- instructed in the safe use of the unit or supervised to ensure safe use, and as long as they are aware of the risk.
- The product is not intended for use by children. Children must not play with the unit. Children must not perform cleaning or maintenance without supervision.



- This fan is intended exclusively to handle ventilation air in residences and commercial buildings.
- All pipework installation must be executed by authorised HVAC specialists.



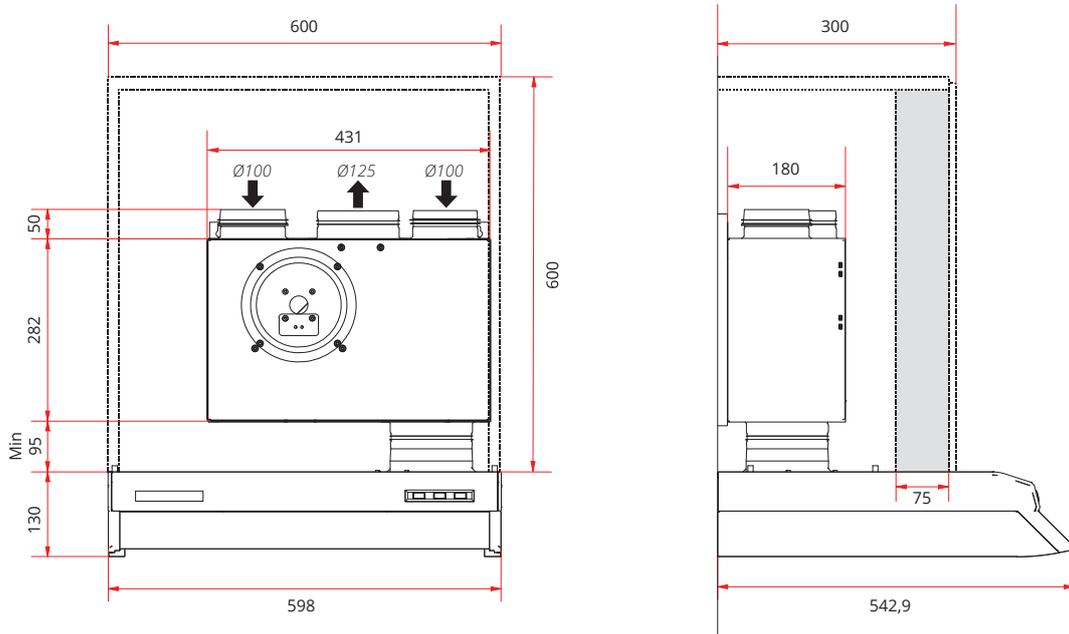
- There must be a sufficient supply of air to the room when products such as gas cooking ranges, gas fires, open fireplaces, wood-burning stoves and oil-fired heaters are used.



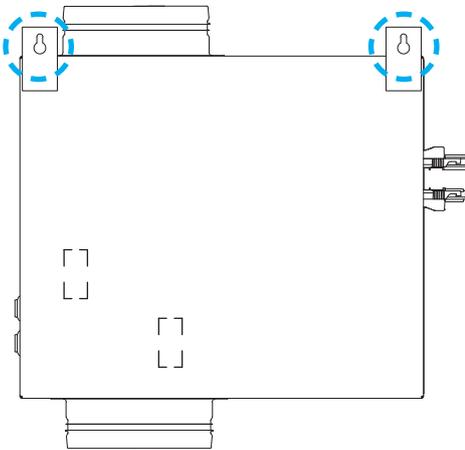
- The fan is designed for fitting indoors below the roof. It can be installed in cold spaces.
- Ducts must be connected to the fan flanges and screwed in place.
- The fan must be fitted so that there is sufficient room to perform service and maintenance procedures such as replacing the filter and cleaning the fan/recovery unit.

## 1. Installation/Preparatory work

### 1.1. INSTALLATION DIAGRAM, SVEC



\* The connection between the cooker hood and SVEC should be performed with a connector sleeve/Polyflex hose rather than the solid pipe shown in the drawing.



The fan must be fastened in the brackets indicated, firmly screwed in place before starting operation.

## 2. How does the system work?

The used, poor-quality air from the kitchen, bathroom and toilet(s) is expelled from the building via the exhaust air fan.

Fresh, new outdoor air is drawn in through valves in the living room and bedroom(s).

In order to obtain good ventilation, the valves must never be closed (used air must be replaced with fresh, new air). The passage of air from “clean” to “polluted” rooms prevents poor-quality air from being spread through the residence.

### 2.1. USE

There are two ways to use the system:

1. As pure exhaust air ventilation, where the exhaust air system is linked to valves in the building's wet rooms (e.g. bathroom, kitchen, laundry room). In this case, the unit is operated via a control panel.
2. As an exhaust air system where, in addition to scenario 1, the system is also connected to the residence's cooker hood, adapted for this product (Check the accessories for each product. The boost function (“HIGH”) can then be activated via the cooker hood.

When used in combination with a cooker hood,

 HIGH mode must be used while preparing food and for at least 10 minutes afterwards.

For information about controlling the flow using a cooker hood or control panel, see Chapter 4.



**INFO!** Make sure to close the damper after preparing food in order to return to normal ventilation.

Advice for ensuring that the system functions optimally:

- Make sure that the supply of outdoor air through the building's fresh air/slotted valves is sufficient.
- If the residence has a fireplace you must – in order to avoid problems with convection draughts – make sure that the air flow is sufficient when the fan speed is increased.
- Check the system – particularly the fan – annually.



**INFO!** In order to maintain an appropriate indoor climate and to prevent condensation damage, the fan must never be shut off completely.

### 2.2. CLEANING THE SYSTEM

- Cooker hood: Clean the grease filter twice a month using hot water and plenty of washing up liquid, or wash it in a dishwasher.
- Fan: Check and clean the fan blades at least once a year (don't forget to disconnect the fan from the power supply first). For additional information, see the fan specifications.
- Valves: Clean at least once a year.
- Roof cowl: Once a year, check that the drainage hole in the lower edge is not blocked.



**INFO!** Failure to clean the grease filter in the cooker hood increases the risk of fire if an accident should occur. At the same time, it negatively affects the service life of the system and may affect your statutory right to complain.

More detailed information about cooker hoods is presented in the instructions for use and on our website.

### 3. Specifications of your exhaust air fan

There are several types of fan to choose between. Check which type is installed in your home.

#### LVEC attic fan

#### KVEC duct fan

#### SVEC cabinet fan

The exhaust air fan is normally located in the attic, directly above the cooker hood.

When it is time to clean the fan, do the following:

- Disconnect the mains plug to ensure the fan is voltage-free.
- The junction box is held in place with hook and loop tape and can be loosened from the side of the fan.
- Loosen the four fixing screws from the round motor cover.
- You can now pull the entire fan directly out of the fan housing.
- Use a non-water-based grease solvent and a small scraper or brush to remove any dirt stuck to the fan wheel. Take care not to damage or crush the fan wheel. Make sure that no water enters the motor itself.
- Leave the fan to dry completely before refitting it.



*SVEC center - art.no. 121165*



*SVEC right - art.no. 120488*



*LVEC 100 - art.no. 120390*



*LVEC 125 - art.no. 120391*



*KVEC - art.no. 120393*

## 4. System description

### 4.1. OUTLINE DIAGRAM

The entire system normally consists of an exhaust air fan, cooker hood, fresh air valves, exhaust air valves, ducts and a roof cowl.

The projected ventilation drawing illustrates how the different components are to be positioned.

Various versions of cooker hood and roof cowl are available and these products have separate instructions for use.

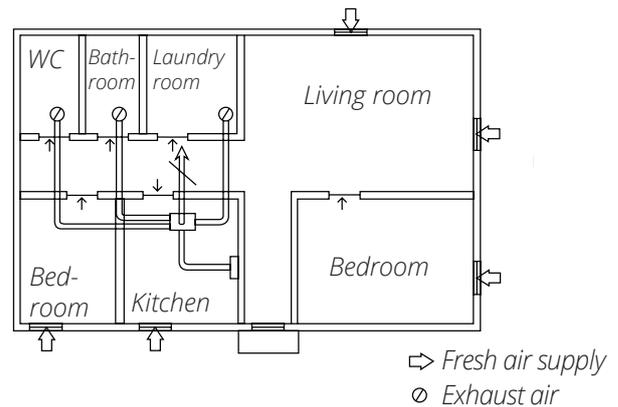
### 4.2. THE EXHAUST AIR FAN

The exhaust air fan extracts air from the kitchen and wet room/toilet in the residence. This generates a slight underpressure in the residence which, in turn, draws fresh air in through the building's fresh air valves. The air flow from "clean" to "polluted" rooms entails the air first ventilating the living room and bedroom(s) and then the kitchen and bathroom. The airflow also prevents air from the kitchen/wet rooms spreading through the residence.

### 4.3. FRESH AIR INTAKE

Fresh air supply valves are to be fitted in all bedrooms, the living room and the kitchen. For the system to function correctly, it is absolutely essential that there be a sufficient number of fresh air valves in the residence. The requirements for fresh air valves and overflow openings are:

- The maximum pressure drop over the valves for the projected air volumes is 10 Pa for normal ventilation.
- Valves must be placed in the rooms so as to endure that cold air is not drawn into the room.
- Overflow openings (air gaps in doors) from rooms with fresh air valves should be ~10 mm.
- Rooms with fresh air valves must not have open windows and open doors to the secondary zones at the same time. In this context, "secondary zones" is taken to mean a hall or corridor outside the room.
- Varying wind and temperature conditions, and the tightness of the building itself, may make it necessary to ensure extra airflow in the bedroom window.



Shutter valves are to be placed approx. 20 cm from the ceiling and should ideally not be positioned in places that are used often.

It is beneficial to ensure that the fresh air is mixed with rising airflows from heating elements and the like, and that it does not encounter obstacles such as window sills, curtains and blinds that can cause convection draughts. Pay attention to the positioning of the bed in the bedroom to ensure that the valves do not cause cold draughts.

It is important that the kitchen receive a plentiful supply of fresh air so that the cooker hood does not draw air from other parts of the building instead – a toilet or chimney, for example.

For the same reason, it is important to ensure a sufficient supply of fresh air to the fireplace, if any. The exhaust air must never be released into smoke ducts or air ducts that lead into the living room or bedroom.

## 5. Exhaust air fans

Attic fan (LVEC)

Duct fan (KVEC)

Cabinet fan (SVEC)

### 5.1. POSITIONING



**INFO!** It is important to position the fan so that it is easy to access for subsequent service and maintenance procedures.

#### Type LVEC – attic fan

Fit the attic fan on a solid underlay. If there is no actual floor in the attic, use a sheet of fibreboard or similar. If desired, the fan can be mounted on the wall or rafters, which can be beneficial to the incline on the ducts and condensation run-off.

As standard, the fans are fitted with an end cap on the upper, right-hand nipple. This end cap can be moved or removed if required. It is also possible to order extra end caps.

#### Type KVEC – duct fan

This can be fitted anywhere it is necessary to install a fan in connection with a duct. The connection nipples are 125 mm as standard.

#### Type SVEC – cabinet fan

The cabinet fan is intended for installation in a cabinet or behind a spice shelf. See the installation diagrams on page 6.

USV: The junction box is supplied unattached and can be fitted to the desired side of the fan. To do so, remove the protective paper from the hook and loop strip on the rear side of the box, and press it firmly in place 25 mm in from the side of the fan, with the black motor cable pointing forward.

Mount the fan on the fitting points above the cooker hood. Connect the cooker hood and fan nipples using a connector sleeve or a short section of duct/hose.



The unit is supplied with 2 metres of cable with a plug. The cable exits the unit from the top and should be connected to a 230 V 50 Hz single-phase, earthed socket in an easily accessible position nearby. The power plug is to be used as a service cut-out.

### 5.2. ELECTRICAL CONNECTION

The fan is fully connected internally and intended for connection to a 230 V AC supply via a plug socket.



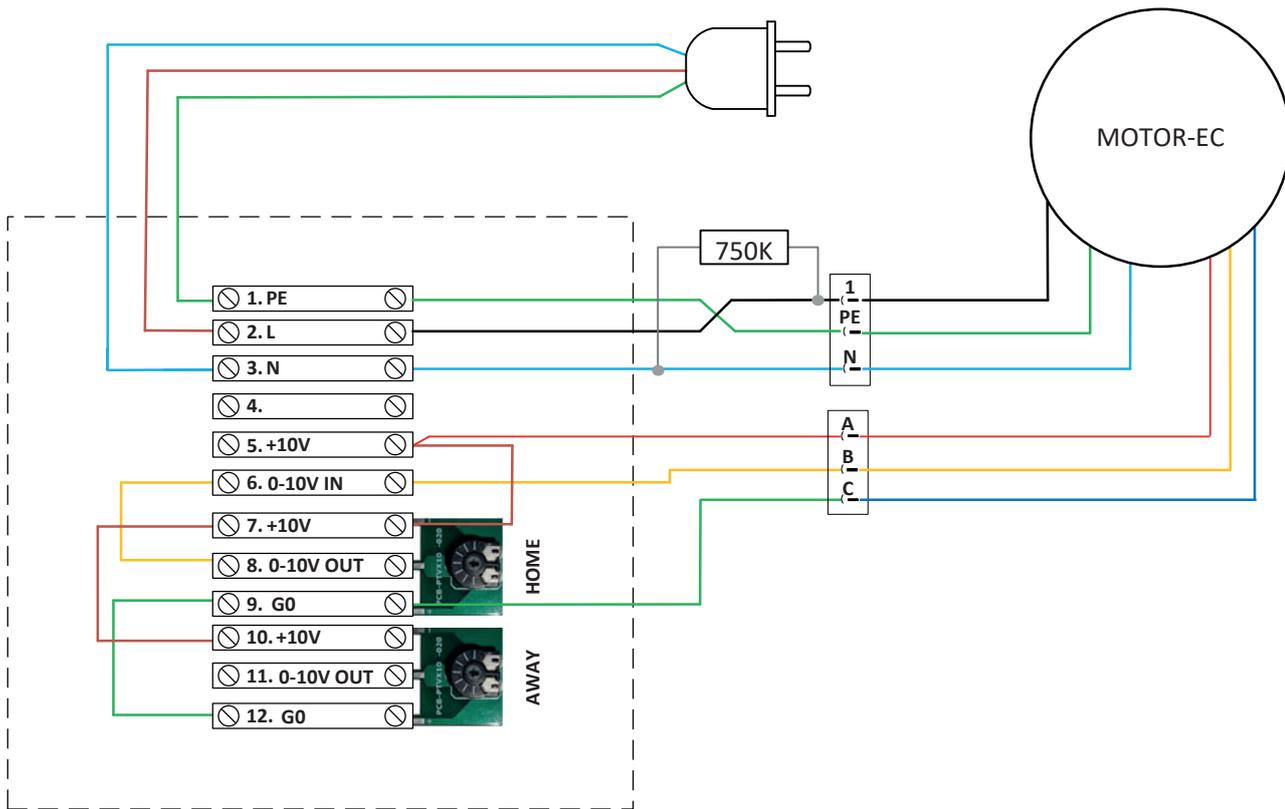
The unit should be fitted with an earth leakage circuit breaker. We recommend connecting the unit to a separate electrical circuit.

### 5.3. CONNECTION INSTRUCTIONS, STANDARD

As standard, the SAT-EC fan is supplied connected so as to operate at a single speed: Home mode.

**NB!** Any adjustment of the air flow must be performed on installation.

In order to adjust the speed, turn the potentiometer labelled "Home" from 0 to 10, where 0 is stop (not used) and 10 is the max. speed for the motor.



### 5.4. CONNECTION INSTRUCTIONS WITH CONTROL PANEL

If you install a control panel (accessory) for the SAT-EC fan, this gives you three speeds to choose between. Accessories are listed on [www.flexit.com](http://www.flexit.com).

#### Away

This is a constant mode and is intended for when the building is not in use for extended periods.

#### Home

This is a constant mode and is intended for normal use when the building is occupied.

#### High

Used for showers/baths, high moisture production or times of high occupancy of the residence.

**NB** Any adjustment of the air flow must be performed on installation.

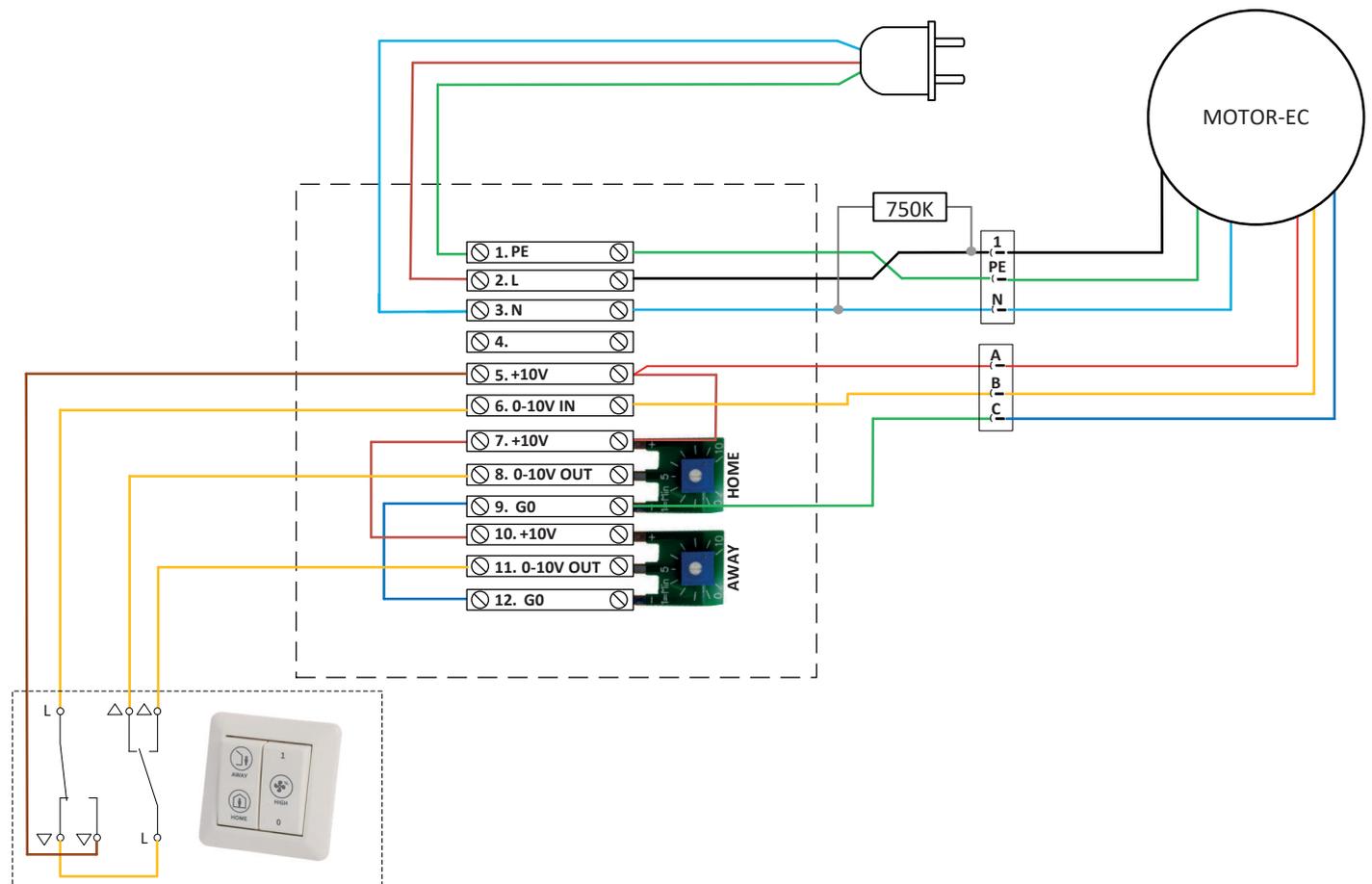
In order to adjust the speed of Away mode, turn the potentiometer labelled "Away" from 0 to 10, where 0 is stop (not used) and 10 is the max. speed of the motor.

In order to adjust the speed of Home mode, turn the potentiometer labelled "Home" from 0 to 10, where 0 is stop (not used) and 10 is the max. speed of the motor.

Make sure to adjust the Away mode so that it features a lower flow than the Home mode.

High mode runs automatically at the max. speed of the motor.

**INFO!** Use the HIGH setting (for at least 30 min) after taking a shower to prevent condensation forming in the duct system.



## 5.5. CONNECTION INSTRUCTIONS WITH CONTROL PANEL AND FORCING SWITCH/HUMIDIFIER/COOKER HOOD

If you install multiple accessories for the SAT-EC fan, this gives you two speeds to choose between. Accessories are listed on [www.flexit.com](http://www.flexit.com).

### Away

This is a constant mode and is intended for when the building is not in use for extended periods.

### Home

This is a constant mode and is intended for normal use when the building is occupied.

### High

Used for showers/baths, high moisture production or times of high occupancy of the residence.

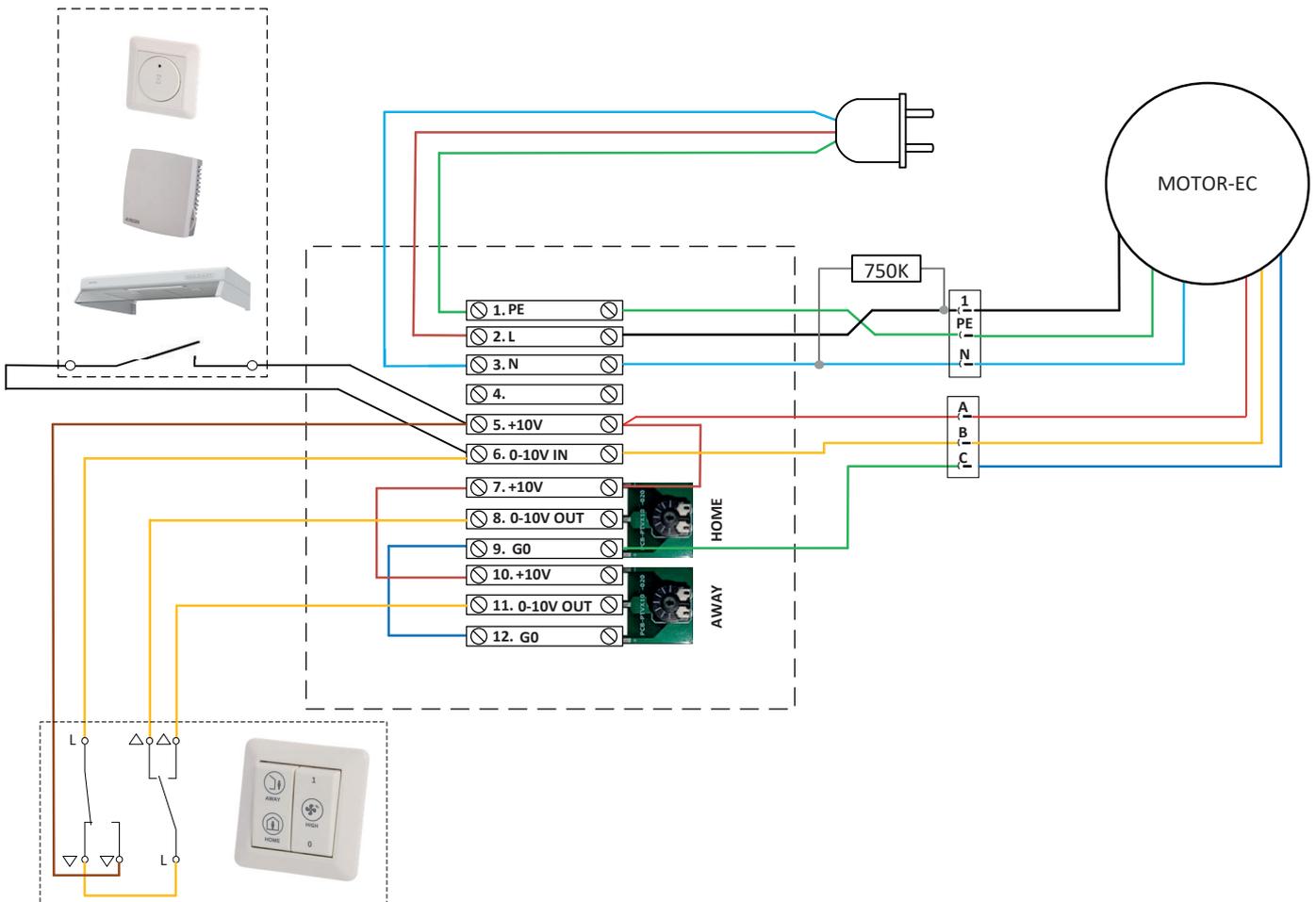
In order to adjust the speed of Away mode, turn the potentiometer labelled "Away" from 0 to 10, where 0 is stop (not used) and 10 is the max. speed of the motor.

In order to adjust the speed of Home mode, turn the potentiometer labelled "Home" from 0 to 10, where 0 is stop (not used) and 10 is the max. speed of the motor.

Make sure to adjust the Away mode so that it features a lower flow than the Home mode.

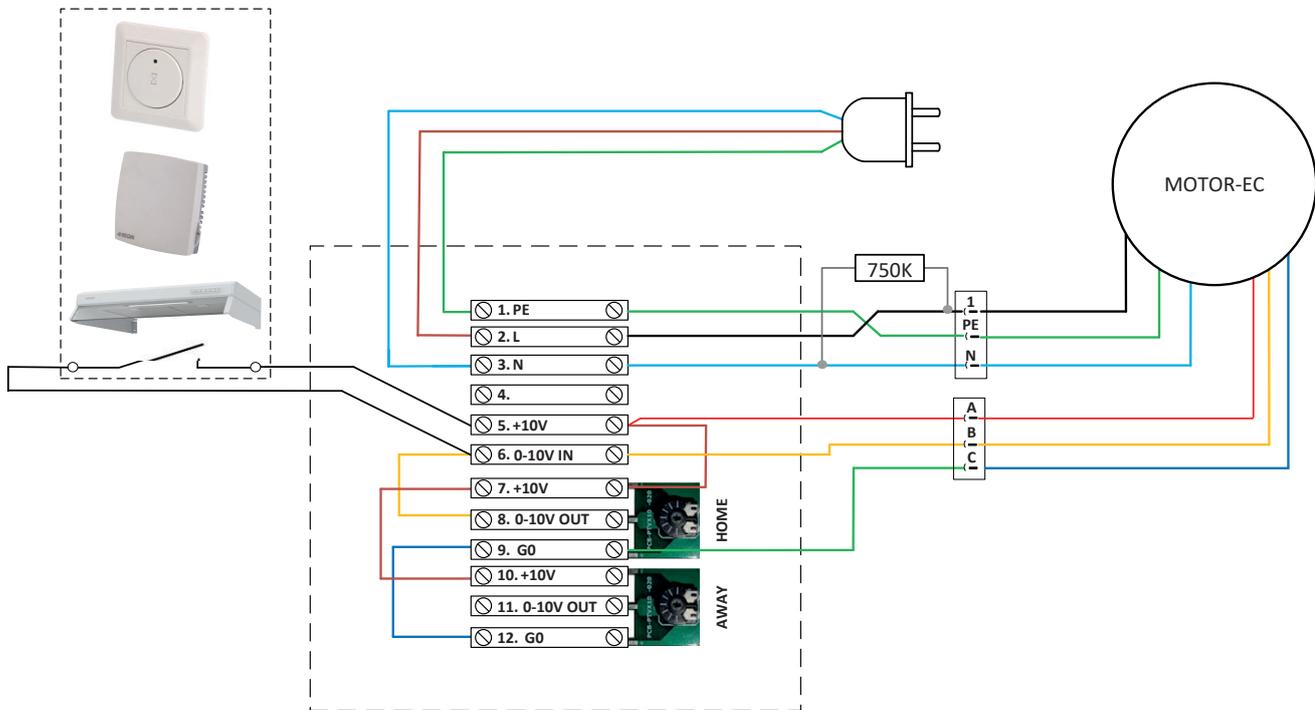
Accessories such as forcing switches, humidity sensors, and cooker hoods activate the high mode automatically.

High mode runs automatically at the max speed of the motor.



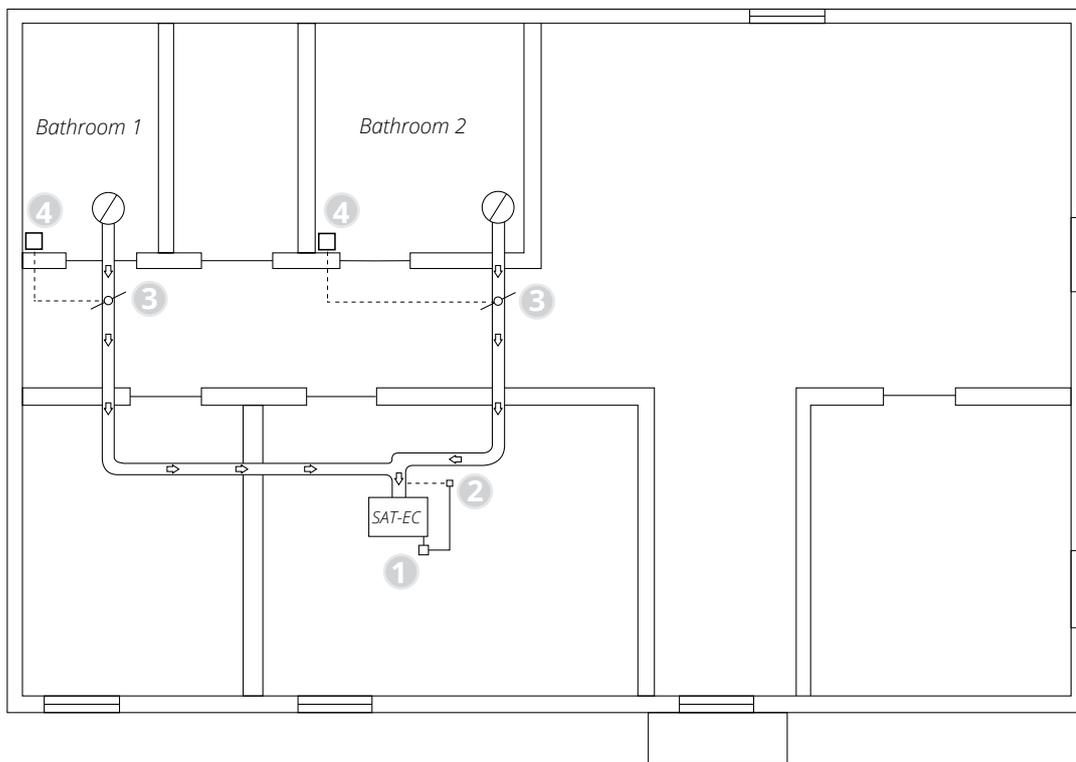
### 5.6. CONNECTION INSTRUCTIONS WITH FORCING SWITCH/HUMIDIFIER/ COOKER HOOD

If you install extra accessories for the SAT-EC fan, this gives you three speeds to choose between. Accessories are listed on [www.flexit.com](http://www.flexit.com).



## 5.7. CONTROL ACCORDING TO LOCAL REQUIREMENTS, SAT-EC

In order to achieve energy class B, it is necessary to control the fan according to local requirements. This is to make it possible to control the flows individually, independently of each other in at least two zones. The figure below presents an example of a system diagram for connecting necessary accessories.



Automation accessories, SAT-EC – Energy class B		
Positioning	Item no.	Designation
1	116685	Regulator Optigo
2	112444	Pressure generator
3	14482	Damper
4	110987	Humidifier for wall installation

## 6. Maintenance schedule

Disconnect voltage to the fan before performing maintenance.

Component	Action	Interval
Fans	Inspect fans connected to the cooker hood at least once a year. Fans not connected to the cooker hood only need to be inspected every three years. Clean the fans as necessary.	12 months 3 years
Cooker hood	For units that have a kitchen hood fan connected for the exhaust air: Wash the grease filter. Check that the damper is clean and that it closes completely.	2 weeks
Valves	Exhaust air valves (in the bathroom, laundry room, etc.) need to be cleaned at least once a year.	12 months
Roof cowl	If the system features a roof cowl, check to make sure that it has not become blocked with leaves or other matter. Check that the drainage hole is open.	12 months
Ducts	Check that the ducts are clean. Clean the interior if necessary.	10 years
The inside of the fan	The combination of low outdoor temperatures and moist exhaust air can result in the formation of ice. This is not normally a problem because when normal operating conditions are re-established, the ice crystals are converted into steam and carried out of the fan by the outlet air. However, in extended periods of extreme cold, check the fan for ice.	

## 6.1. INSPECTION/MAINTENANCE

Remove the plug from the socket to disconnect voltage from the product.

### Specifications of your exhaust air fan

There are several types of fan to choose between. Check which type is installed in your home.

#### LVEC Universal attic fan KVEC Universal duct fan

The exhaust air fan is normally located in the attic, directly above the cooker hood.

#### SVEC Universal cabinet fan

The exhaust air fan is positioned in a cabinet or behind a spice shelf directly above the cooker hood.

#### When it is time to clean the fan, do the following:

- Disconnect the mains plug to ensure the fan is voltage-free.
- Then separately disconnect the quick connectors (blue and white) in the cabling. See Figure 1.
- The junction box is held in place with hook and loop tape and can be loosened from the side of the fan.
- Loosen the four fixing screws from the round motor plate. See Figure 2.
- Remove the entire fan unit for a thorough cleaning. See Figure 2.
- Use a non-water-based grease solvent and a small scraper or brush to remove any dirt stuck to the fan wheel.
- Take care not to damage or crush the fan wheel.
- **NB!** Make sure that no water enters the motor itself.
- Leave the fan to dry completely before refitting it.
- Then carefully refit the fan.

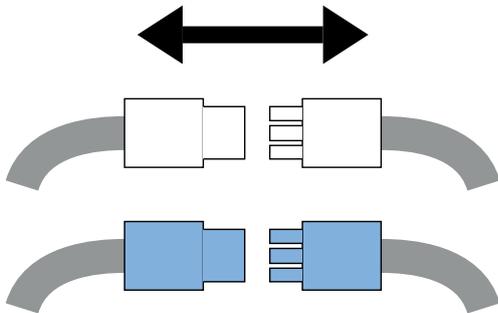


Figure 1

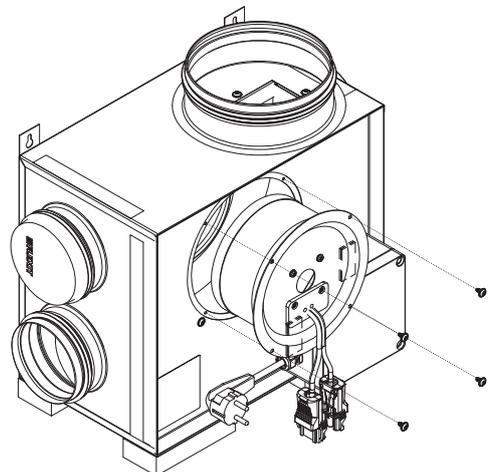
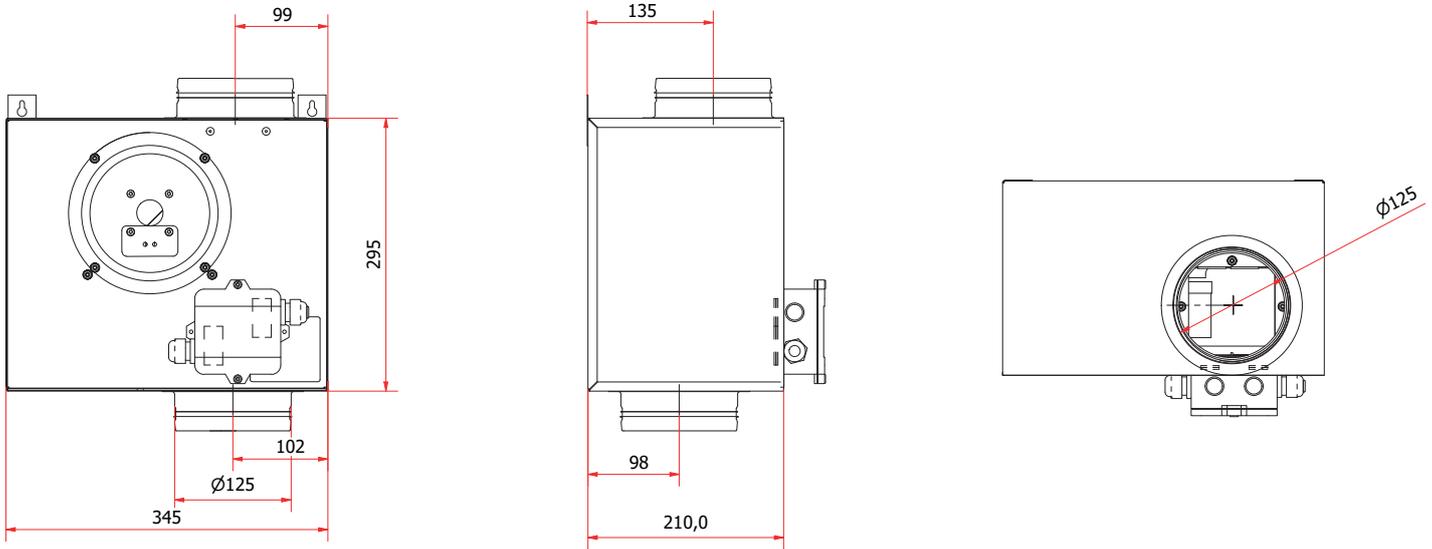


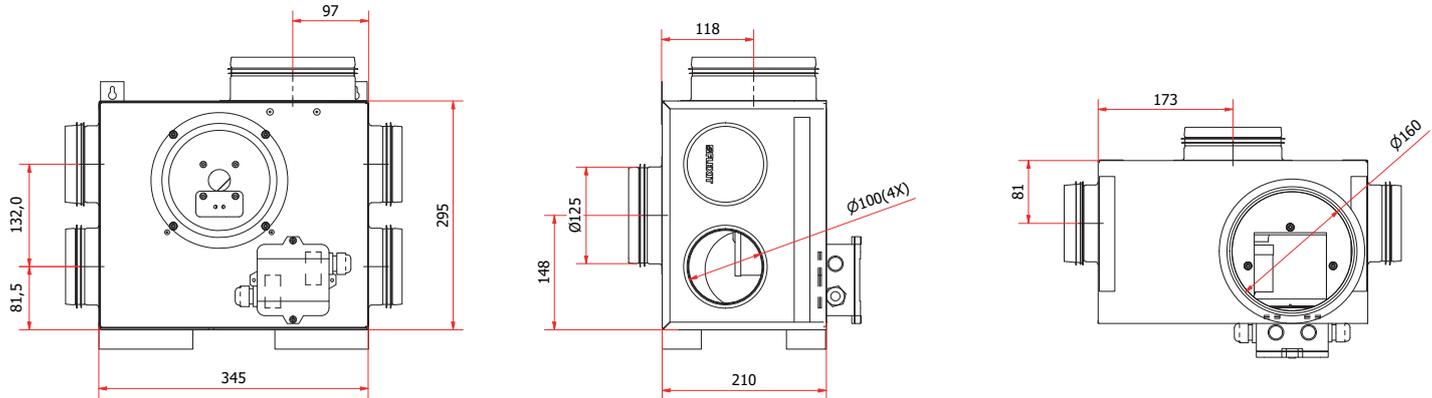
Figure 2

## 7. Dimensioned drawings

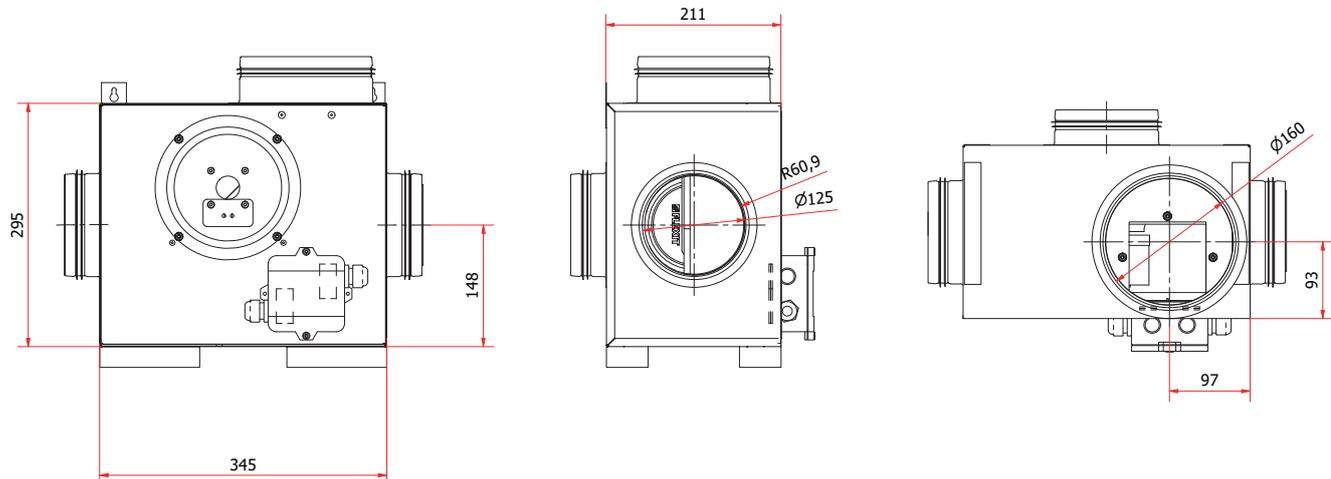
**KVEC 125**  
Item. no. 120393



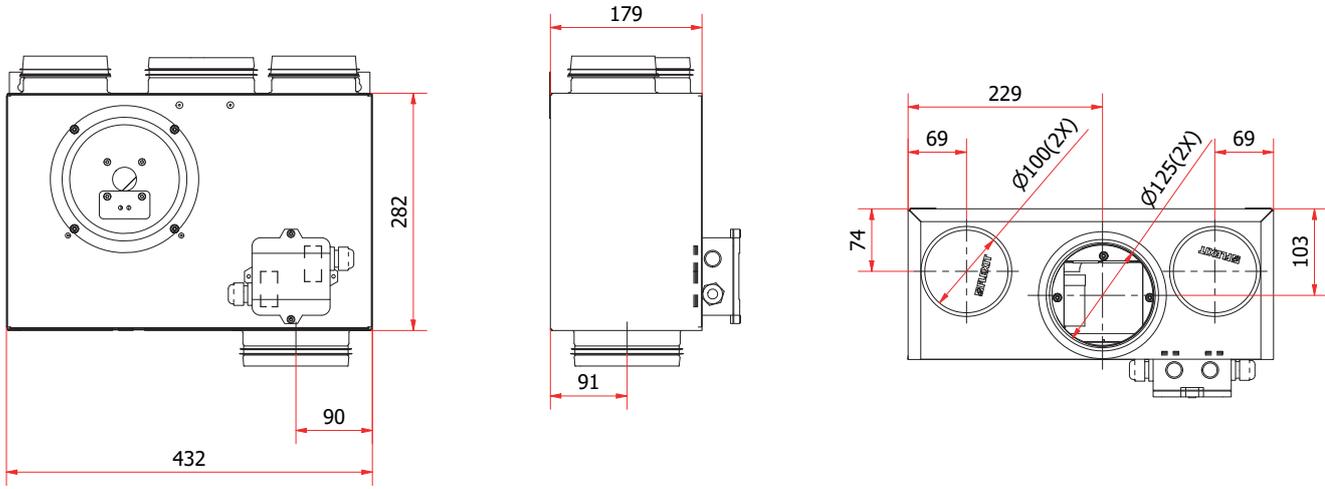
**LVEC 100**  
Item. no. 120390



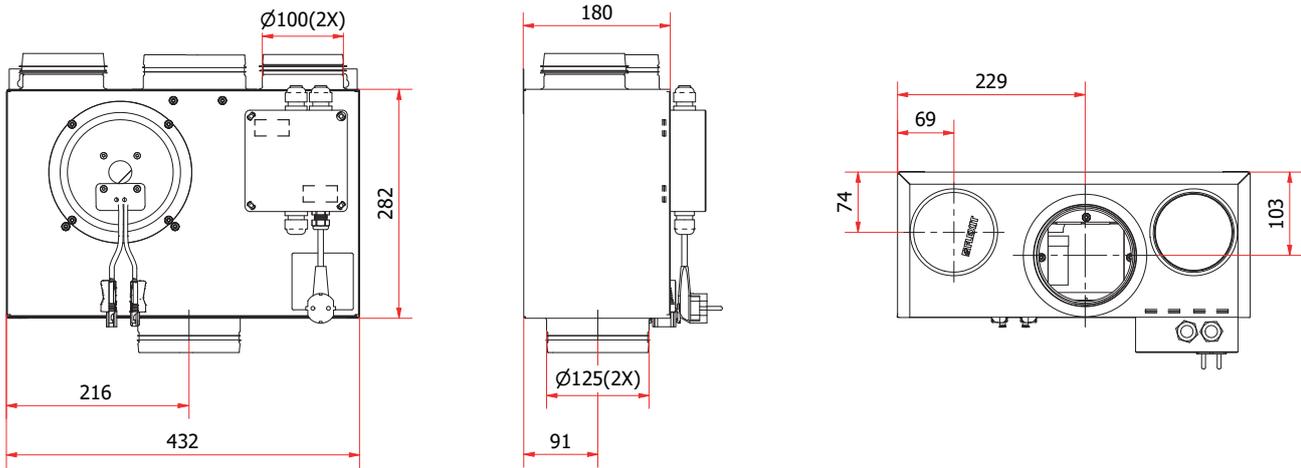
**LVEC 125**  
Item. no. 120391



**SVEC R**  
Item. no. 120488



**SVEC C**  
Item. no. 121165





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