

Swegon**CASA**[™] R85

Instructions for Installation, Operation and Maintenance



Content

Instructions for Use

For the user

| | |
|--|---|
| Important information | 3 |
| Control from a Premium cooker hood | 4 |
| Control from a Premium control panel | 4 |
| To replace the filters | 5 |
| Alarms | 5 |

Installation, operation and maintenance

For the installer and service personnel

| | | | |
|---|-----------|---|-----------|
| 1. Installation instructions..... | 6 | | |
| Important information | 6 | 3.6 Install and service | 16 |
| 1.1 General..... | 7 | 3.6.1 Service reminder/alarms | 16 |
| 1.2 To install the ventilation unit | 7 | 3.6.2 Clock | 16 |
| 1.3 Condensate discharge..... | 7 | 3.6.3 Temperature | 16 |
| 1.4 Cooker hood directly connected to the ventilation unit | 8 | 3.6.4 Measurements | 16 |
| 1.5 Cooker hood separated from the ventilation unit | 8 | 3.6.5 Controls | 16 |
| 1.6 Bypass for the kitchen on the top of the ventilation unit | 9 | 3.6.6 Fan settings | 16 |
| 1.7 Electric and control cables..... | 9 | 3.6.7 Close | 16 |
| 1.8 Ducts | 11 | 3.6.8 Factory settings..... | 16 |
| 1.9 Moisture barrier against cold timber frames | 11 | 3.6.9 Actuators..... | 16 |
| 2. Description of functions..... | 12 | 3.6.10 Functions | 16 |
| 2.1 Basic functions..... | 12 | 3.6.11 El. heaters..... | 16 |
| 2.1.1 Fans..... | 12 | 4. Service..... | 17 |
| 2.1.2 Temperature | 12 | 4.1 Service reminder | 17 |
| 2.1.3 Protective functions | 12 | 4.2 To open the ventilation unit | 17 |
| 2.2 Optional equipment – automated control equipment..... | 12 | 4.3 Filter change | 17 |
| 2.3 RECOtite..... | 13 | 4.3 Other servicing..... | 17 |
| 3. Application | 14 | 5. Alarms and troubleshooting | 18 |
| 3.1 To set the airflows..... | 14 | 5.1 Alarms..... | 18 |
| 3.2 Premium cooker hood..... | 14 | 5.1.1 Alarms from a Premium control panel | 18 |
| 3.3 Premium control panel | 14 | 5.1.2 Alarms from the cooker hood control panel | 18 |
| 3.4 Start menu..... | 15 | 5.2 Troubleshooting: | 18 |
| 3.4.1 Fireplace function | 15 | 5.2.1 The supply air is not sufficiently heated | 18 |
| 3.4.2 Fan speed | 15 | 6. List of components | 19 |
| 3.5 Main menu | 15 | 7. Technical data..... | 20 |
| 3.5.1 Language..... | 15 | 7.1 Sizing..... | 20 |
| 3.5.2 Install and service..... | 15 | 7.2 Wiring diagram, ventilation unit and cooker hood..... | 21 |
| 3.5.3 Clock..... | 15 | 7.3 Power consumption | 21 |
| 3.5.4 Summer night cooling..... | 15 | 7.4. Wiring diagram, optional equipment | 22 |
| 3.5.5 Temperature | 15 | 7.5 Control diagram | 24 |
| 3.5.6 Basic display..... | 15 | 7.6 Dimensions | 25 |
| 3.5.7 Close | 15 | 7.7 Weight | 25 |
| 3.5.8 Fireplace function | 15 | 7.8 Optional equipment..... | 25 |
| 3.5.9 Week timer..... | 15 | 8. Record of the settings | 26 |
| 3.5.10 Contrast | 15 | Plant data to be given when requesting service | |
| 3.5.11 Device mode..... | 15 | Project planning | |

Plant data to be given when requesting service

Project planning

See separate project planning instructions, www.swegon.com.

N.B.! The manual was originally written in Finnish.

Instructions for Use



Important information!

Airflows

The air in the home should be changed at a continuous and sufficient rate to ensure a pleasant indoor climate and avoid damage to building elements caused by dampness. The ventilation unit should be stopped only while service work is in progress.

The airflow from the ventilation unit can be controlled to the various rooms from a Premium control panel or a Premium cooker hood.

- **Away** = a low airflow, which can be used when no one is in the home.
- **Home** = Normal airflow.
- **Boost** = a high airflow, used for cooking, taking a sauna bath, showering, drying laundry and similar activities.

The Away/Home operating modes and the temperature of the supply air can be controlled with the ventilation unit's built-in weekly timer; however the operating mode can always be changed from the Premium control panel or the Premium cooker hood.

A low airflow when the home is unoccupied means economical operation. This saves on fan energy and the home heating system does not have to heat as much air during the cold season.

The most important function of the ventilation system is to ensure that the indoor air will be continuously fresh and to remove impurities and moisture from the air. You should therefore make an appraisal of whether a low airflow is sufficient while

the home is unoccupied. The low airflow mode must absolutely not be used when someone is in the home.

If the load on the home is greater than you've anticipated, then you should increase the normal airflow to a correspondingly higher rate.

Drying laundry

A tumbler dryer of extract air type or a drying cabinet must not be connected to the system due to the high moisture content in the air leaving them. We recommend a condensing tumbler dryer without duct connection.

Freeze protection

During periods of cold weather, the heat exchanger is liable to freeze if the extract air is humid. A protective function then automatically reduces the speed of the supply air fan. Under such conditions, variations in the fan speed are therefore normal.

Filters

The ventilation unit must not be operated without filters. Use only filters recommended by Swegon in the ventilation unit.

Commissioning

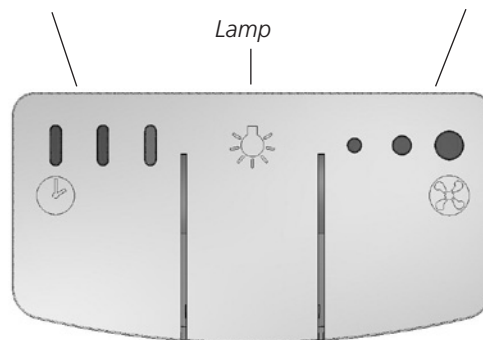
The ventilation should not be commissioned until all work that produces large quantities of grinding dust or other impurities has been completed.

Control from a Premium cooker hood

The ventilation unit fan speeds and other settings should be entered via the Premium control panel. When you have entered these settings, the functions below will be available from the cooker hood control panel.

- The cooker hood damper. When preparing food or carrying out a similar activity, a 30, 60 or 120 minute damper-open period can be selected. One single press of the button will change the setting to the next damper-open period. The fourth press of the button cancels the setting and closes the damper.
- The cooker hood lighting. On/Off.
- The ventilation unit fan speed. The fans inside the unit can be controlled to operate at three speeds: Away/Home/Boost. One single press of the button will increase the fan speed one step. The period for the boost speed is preset to 60 minutes, after which the ventilation unit will return to normal airflow.
- Alarms with flashing indicating lamps. See also Section "5. Alarms" in the instructions for use.

Timer for the cooker hood damper, 30/60/120 min. *The ventilation unit fan speeds Away/Home/Boost, 60 min.*



Control from a Premium control panel

When the power is switched on, the ventilation unit starts up in the Home operating mode. The start time is approx. 1 minute. After that, the control panel can be used. Likewise after a power failure, the ventilation unit starts up in the Home operating mode, if the power failure has cleared the memory.

The functions of the push buttons are described in the image to the right.

Fireplace function

The speed of the extract air fan decreases and the speed of the supply air fan increases for a few minutes. This produces excess pressure in the home and in this way "creates" a draught in the chimney, which prevents smoke from entering the room when you light the log-fire.

Selection of fan speed

The fans inside the unit can be controlled to operate at three speeds: Away/Home/Boost. Select the required fan speed from the control panel.

Timer-controlled airflow boost is available.

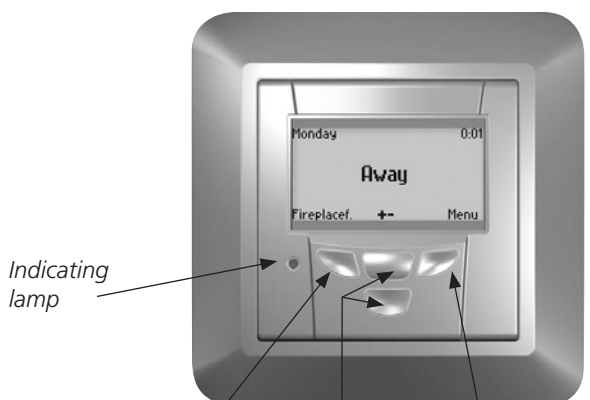
The operating mode can be manually changed, even when the fan speed is controlled by the weekly timer.

Menu/Install and service

You can enter settings that affect the operation and functions of the ventilation unit from the Installation and service menu and submenu. You should normally enter these settings when you install the ventilation system. The settings are described in Sections 3.5 and 3.6.

Indicating lamp

The indicating lamp on the control panel indicates the functions and alarms of the ventilation unit with various colours. This is described in Section 5.

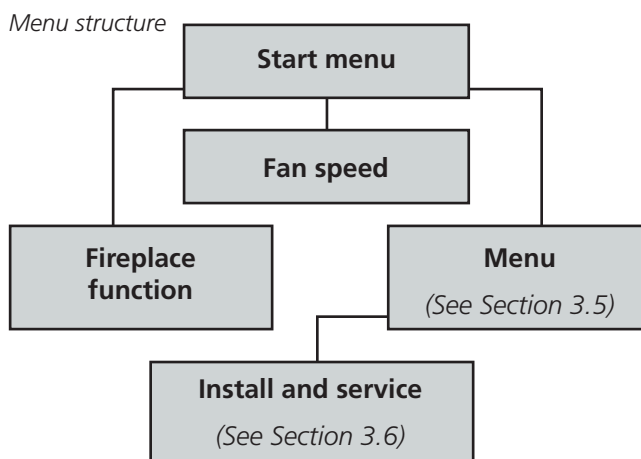


Indicating lamp

Fireplace function
Return to previous menu level
Move to the left

Menu
Move to the right
Setting function

Selection of fan speed
Move upward/downward
Entering values



To replace the filters



The home owner can change the filters himself or herself.

Other service work must be carried out by a qualified service personnel.

Extract air filter

The filter should be cleaned every six months and should be replaced at least once per year. It may be necessary to clean or replace the filter more often in homes where there is considerable dust.

Supply air filter

To be replaced at least once per year. It may be necessary to clean or replace the filter more often in homes where the outdoor air contains a large amount of particles.

Service reminder

The ventilation unit's control system is normally preset for displaying a service reminder every six months. This time setting can be changed by qualified service personnel.

Alarms

Alarms from the cooker hood control panel

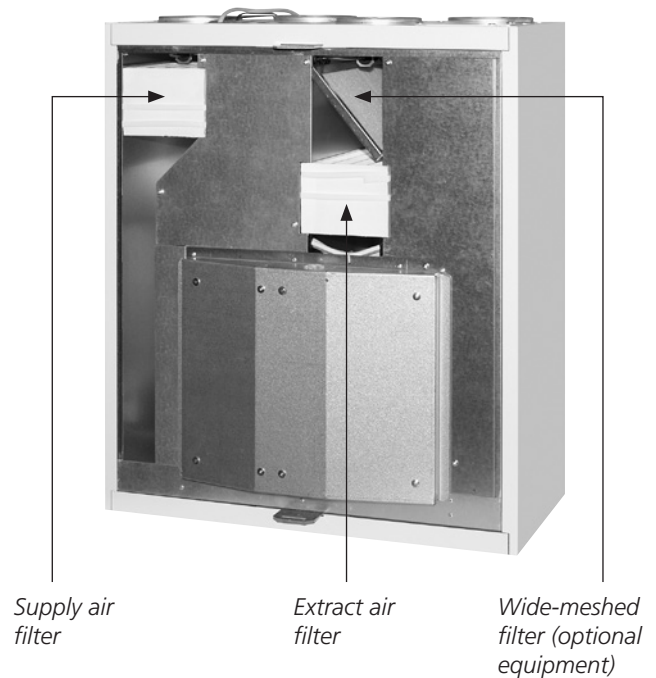
The alarm is given in the form of a flashing indicating lamp.

Contact service!

Alarms from a Premium control panel

- The indicating lamp is flashing red: The automated protection system has stopped the fans due to a malfunction. The alarm text is shown in the display. Contact service!
- The indicating lamp is lit with a steady red glow: Alarm or a service reminder. The alarm text is shown in the display. Contact service!
- The indicating lamp indicates certain unit functions with other colours. See Section "3.3 Premium control panel"

The locations of the filters in a ventilation unit in the right-hand version. The locations of the filters are mirror-inverted in a left-hand model.



The ventilation unit must not be operated without filters! Use only filters recommended by Swegon in the ventilation unit. Find the correct filters in Section 6, List of components.

1. Installation instructions

Important information!

Qualified personnel only

The installation work, the entering of settings and commissioning should be carried out by qualified personnel only.

Standards and requirements

The pertinent national standards and regulations dealing with installation, the entering of settings and commissioning must be followed if the equipment is to operate correctly.

You will find the document entitled "Project design instructions for ventilation" at the web address www.swegon.com/casa, in which requirements on electric power, noise, airflows and duct systems are presented. Each country has specific national requirements which must be observed.

Right-hand or left-hand version

Check whether the ventilation unit has been supplied in the right-hand or left-hand version to make certain that you are connecting the air ducts to the correct duct connection spigots on the unit. See also the dimensional drawings in Section 7, Technical data.

Drying laundry

A tumbler dryer of extract air type or a drying cabinet must not be connected to the system due to the high moisture content in the air leaving them. We recommend a condensing tumbler dryer without duct connection.

The covered duct connection spigots

The duct connection spigots of the ventilation unit must be covered by lids during transport, storage and installation.

Filters

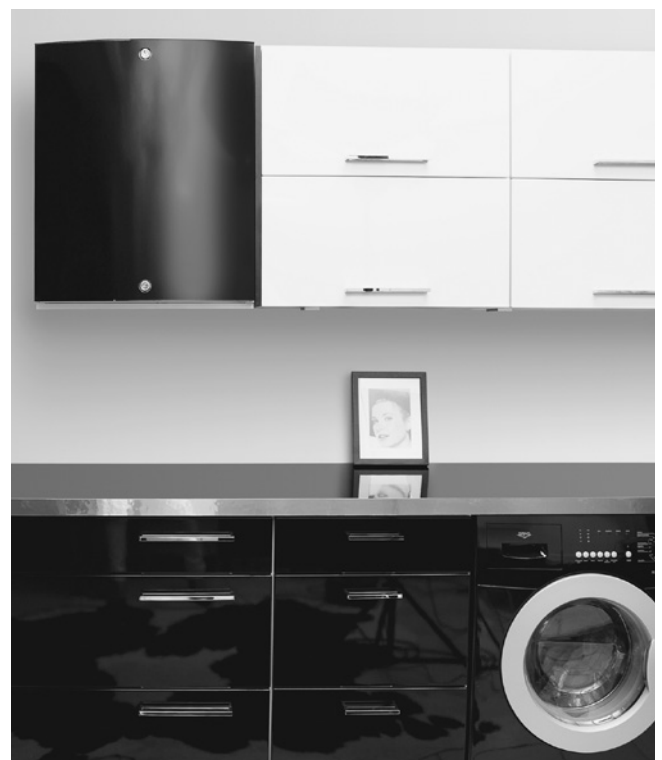
The ventilation unit must not be operated without filters. Use only filters recommended by Swegon in the ventilation unit.

Commissioning

The ventilation should not be commissioned until all work that produces large quantities of grinding dust or other impurities has been completed.



To install a cooker hood in the kitchen, directly against the ventilation unit.



Installation in a scullery.

1.1 General

The ventilation unit can be installed in a scullery, storage space, etc. The temperature in the installation space must be constantly more than +10 °C.

The ventilation unit conforms to enclosure class IP X4 when the inspection cover is closed.

Connect the extract air from the Premium cooker hood via a duct to the extra duct connection spigot on the top side of the ventilation unit.

The ventilation unit can be installed as a wall cabinet above the cooker. The Premium cooker hood can be connected directly to the duct connection spigot on the underside of the ventilation unit.

Superfluous connections should be blanked off with lids.

To make it easier to lift the ventilation unit, the inspection cover can be removed and the heat exchanger can be dismantled from the unit. The fans can also be removed if necessary. See Section 4, Service.

1.2 To install the ventilation unit

Secure the ventilation unit to the wall using the wall mounting bracket supplied with the unit.

The ventilation unit should not be secured to a wall that borders to a living room or a bedroom.

If the wall is composed of vertical studs and building boards, the wall must be reinforced with horizontal studs to enable it to support the weight of the unit.

Swegon also recommends that the wall be insulated with mineral wool or similar insulation for preventing sound from propagating to other rooms.

Secure the mounting bracket horizontally to the wall with screws, using a suitable means of anchoring that can support the weight of the ventilation unit.

Lift the ventilation unit into place, so that the wall bracket tips engage into the corresponding slots on the backside of the ventilation unit.

Make sure that the electric and control cables are visible. See also Section 1.6 Electric and control cables.

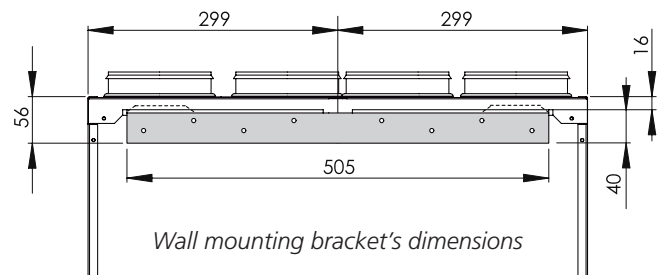
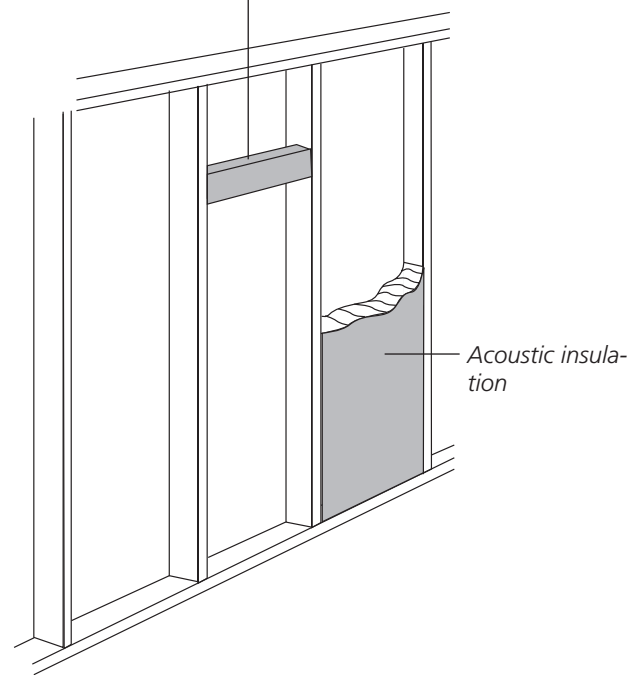
The ventilation unit can also be mounted in a mounting frame on the ceiling. See Optional equipment.

1.3 Condensate discharge

As a rule, no condensate discharge is needed under dry ambient conditions and in combination with a rotary heat exchanger. A certain amount of humidity load is common in homes and Swegon recommends connecting a condensate discharge hose to the ventilation unit, if considerable moisture is produced in the home.

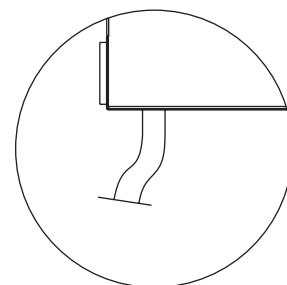
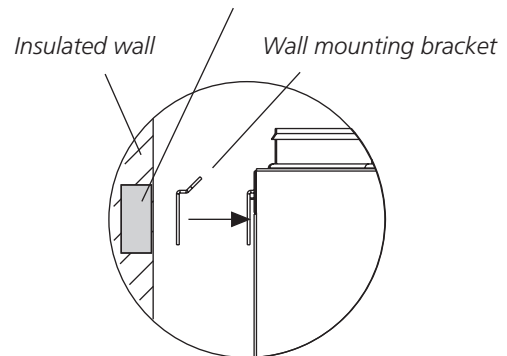
Connect the condensate discharge hose to the condensate discharge connection of the unit (3/8", Male threads). The condensate must be channelled to a floor gully, the water trap of a sink or the equivalent by

Horizontal stud for the ventilation unit's mounting bracket



Wall mounting bracket's dimensions

Horizontal reinforcement



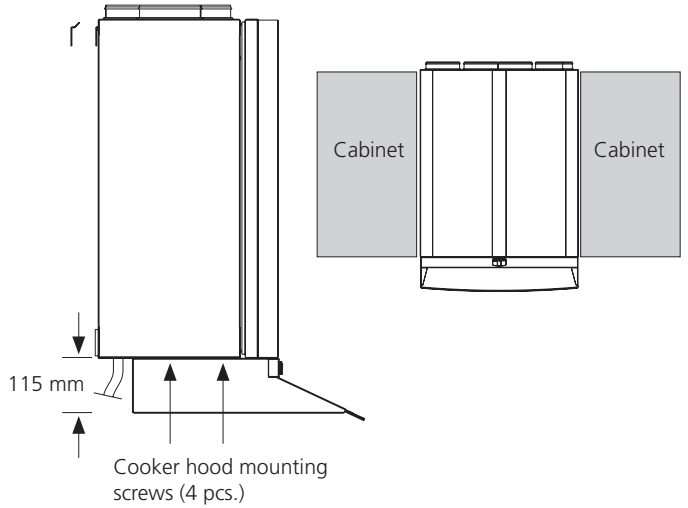
Condensate discharge

means of a stiff hose or a pipe having an inner diameter of at least $\varnothing 12$ mm. The water must not be led away directly to the sewer.

Vertically mount the water trap on the hose supplied with the unit and fill it with water. The hose must not have a second water trap or be run horizontally. The damming height of the water trap should be at least 100 mm.

1.4 Cooker hood directly connected to the ventilation unit

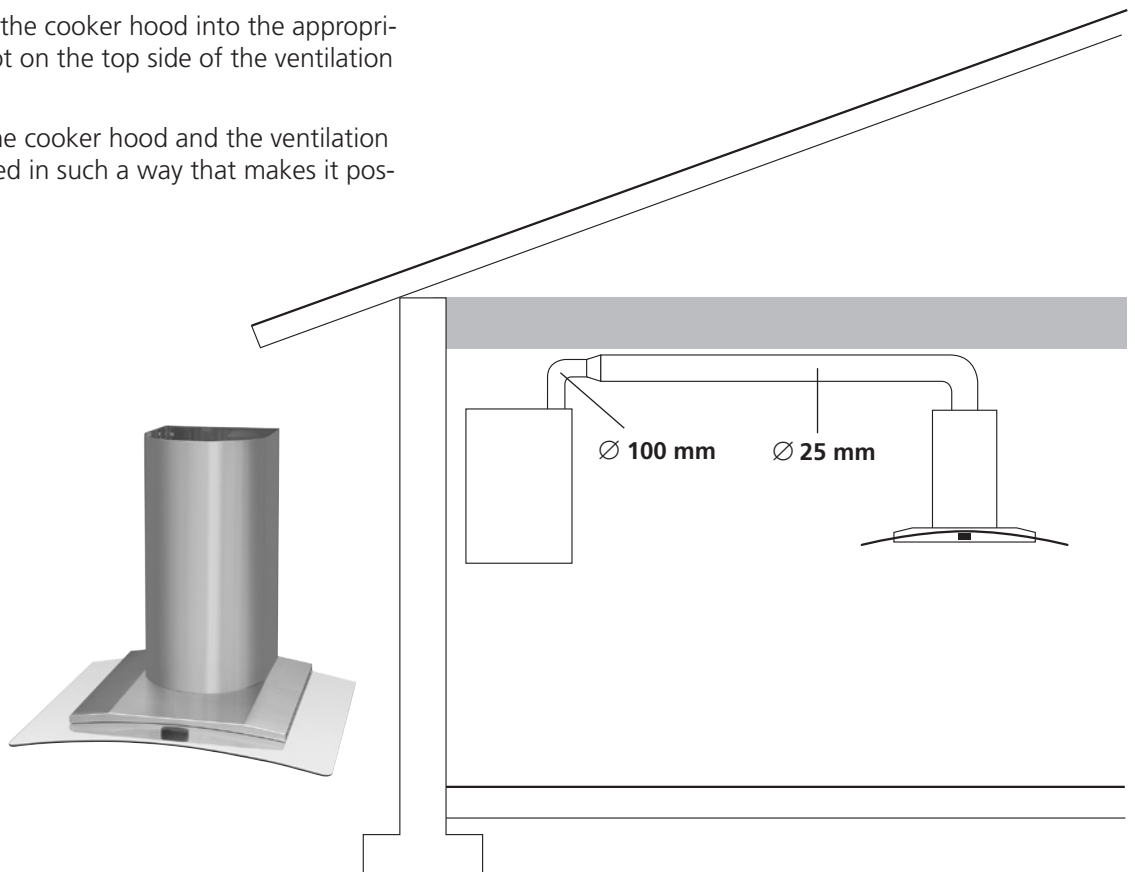
Insert the cooker hood's duct connection into the appropriate connection spigot on the underside of the ventilation unit. Secure the cooker hood in the ventilation unit with the screws supplied.



1.5 Cooker hood separated from the ventilation unit

Insert the duct from the cooker hood into the appropriate connection spigot on the top side of the ventilation unit.

The duct between the cooker hood and the ventilation unit must be mounted in such a way that makes it possible to clean it.



1.6 Bypass for the kitchen on the top of the ventilation unit

To remove the lid on the kitchen bypass duct outlet, proceed as follows.

- Back off the screws in the protective plate (safety guard) in front of the extract air fan. Slightly withdraw the heat exchanger, so that the protective plate comes loose from its spot.
- Unscrew the screws in the protective plate and remove it.
- Press from the underside holding your hand against the lid of the bypass for the kitchen to loosen it together with its insulation.
- Refasten the protective plate in place in front of the extract air fan.
- The duct connection spigots are now ready for installation.



The kitchen outlet's Ø100 mm duct spigot should be fitted with a taper piece for transition to Ø 125 mm as close as possible to the ventilation unit.

1.7 Electric and control cables

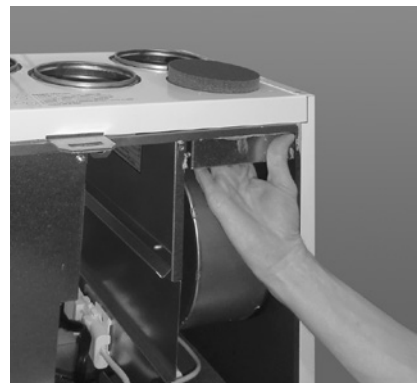
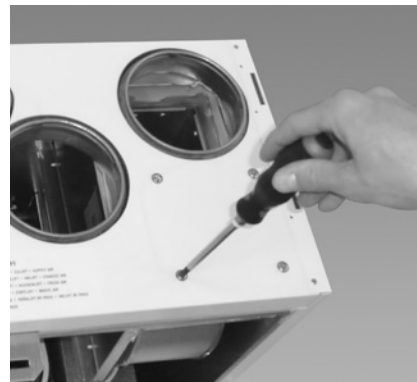
The ventilation unit and the Premium cooker hood have their own earthed mains plugs for power supply. The mains plug serves as the ventilation unit's main switch and it should be connected to an electric socket at an easily accessible spot.

The room unit is equipped a 1.5 m long cable with plug-in contact, installed from the topside of the ventilation unit. The cooker hood has a 1 metre long cable with plug-in contact that extends from the rear of the cooker hood. Arrange the wall outlets at easy-to-access locations. For power requirement particulars, see Section 7, Technical data.

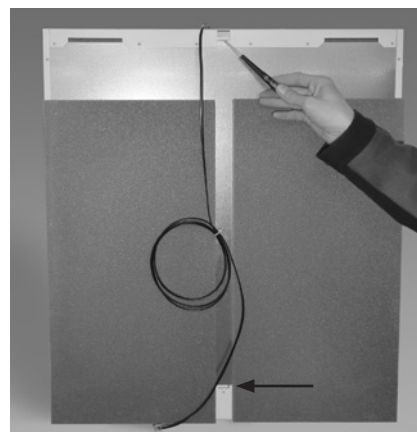


If the modular cable is lengthened within some building element (e.g. a wall), the cable should be lengthened in a Ø 20 mm dia. tube as a precaution in case the need should arise to replace it in the future.

To remove the protective plate (safety guard)



To install the modular cable and the cooker hood connection cable



1. Force open the cable brackets at the top and the bottom with a screwdriver.

Interconnect the ventilation unit and the cooker hood with a modular cable. The modular cable of the ventilation unit extends from the top side of the unit and the modular contact of the cooker hood is located on the backside of the cooker hood.

A 1.5 metre long modular cable, included in the supply, is used when the cooker hood is to be connected directly to the ventilation unit. If the ventilation unit and the cooker hood are installed at separate locations, you can use the ventilation unit's other, 20 metre long, cable or place an order for an adequately long modular cable.

The ventilation unit can also be connected to the Premium control panel via a modular cable. Secure the premium control panel at a place of your choice. A 20 metre long modular cable is included in the supply.

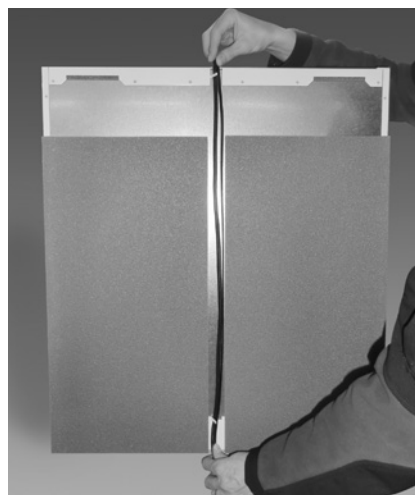
When installing the unit, make sure that you provide adequate access to the connector of each cable (loose ones as well), e.g. for servicing and adjusting the unit, if and when the need arises.

In multi-family homes, you can utilise a Premium control panel which service personnel can temporarily connect to the units, one-by-one, if the need arises to enter new settings. In such cases, the modular cable of the ventilation unit must be readily accessible to make it easy to connect the control panel.

In general, only systems, which are controlled from a cooker hood, have a separate Home/Away switch (optional extra) by the front door. The switch starts the Away function in the ventilation unit.

The diameter of the modular cable wiring tube should be at least \varnothing 20 mm.

The connection of possible optional equipment is described in the wiring diagram in Section 7, Technical data. The cables for the optional items of equipment are not included in the supply.



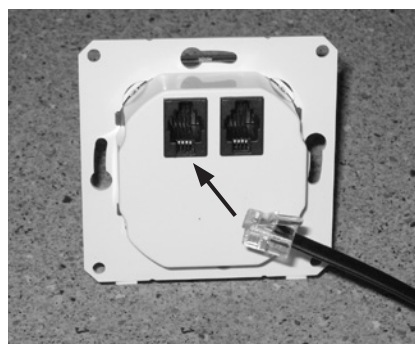
2. Place both the modular cable and the cooker hood connection cable from above and below and press the brackets together to close them.



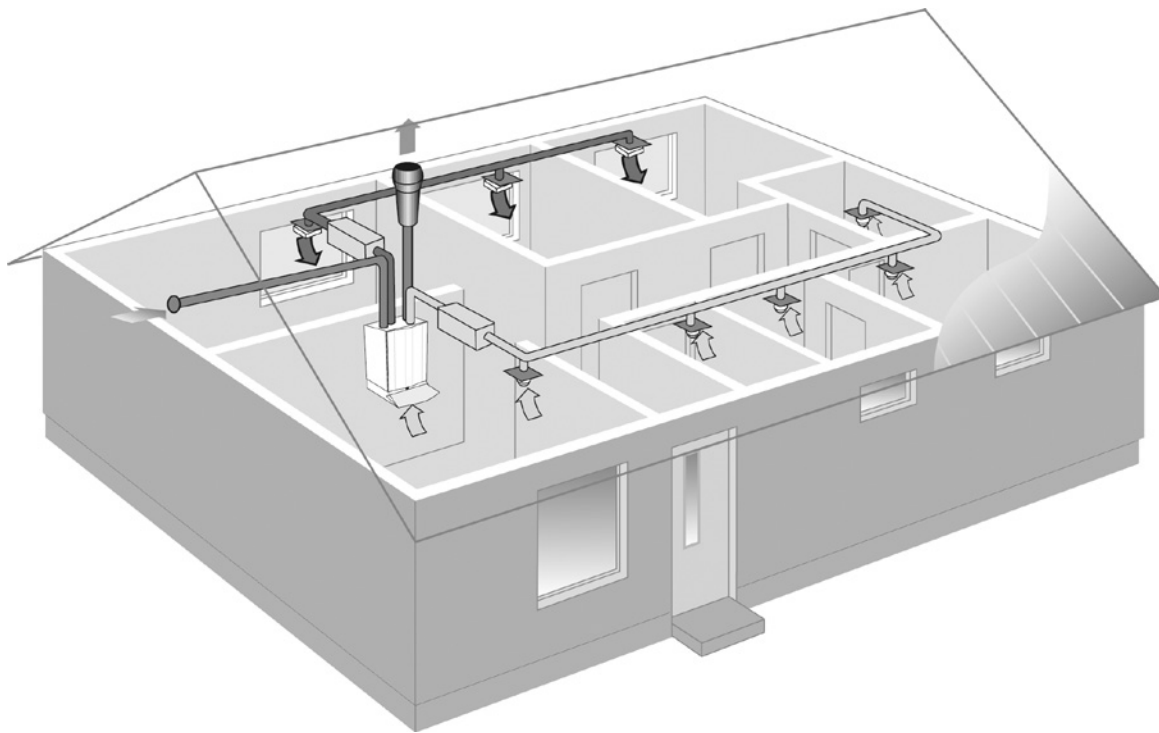
3. Connect the cables to the cooker hood.



To dismantle the front plate on a Premium control panel.



To connect the modular cable. The extra contact is used for connection of an extra control panel.



1.8 Ducts

Install the air ducts, sound attenuators, supply air diffusers, air intake grilles and exhaust air ducts as shown in the ventilation drawings. To prevent the propagation of sound, do not install the ducts directly against structural building elements.

Insulate the air ducts in order to reduce loss of heat or cooling energy and to prevent water from condensing on surfaces. In addition, it is advisable to insulate the ducts to prevent the spread of fire.

In general, ventilation ducts are insulated in the following manner:

- Outdoor air ducts are insulated in warm spaces and in attics that are used.
- Exhaust air ducts should always be insulated in accordance with national regulations. See separate project planning instructions (for example Fire resistance classification requirements).
- Insulate supply air ducts in cold spaces.
- Insulate extract air ducts in cold spaces.
- If the air inside the duct is colder than in the surroundings, the insulation should be protected by a moisture barrier.

1.9 Moisture barrier against cold timber frames

It is important that the moisture barrier between cold stud work and the warm ceiling maintains its tightness at duct penetration points. A duct penetration piece (optional extra) will facilitate this. This item is available in sets of 5 for size 100, 125 and 160 mm dia. ducts. It can be fastened with tape in the moisture barrier. We recommend the use of a mounting frame (optional extra) for sealing the moisture barrier in the attic tie beams.

Cut up the openings with approx. 10 mm smaller diameter than that of the ducts. Secure the mounting frame in the ceiling with screws through the holes on the sides. The plastic film of the moisture barrier should either be stretched and fastened between the mounting frame and the structural element of the building, or be taped tightly against the mounting frame.



It is essential that the ventilation ducts are clean in order for the ventilation unit to operate as it should.

The ventilation ducts should be cleaned regularly and always when the home is renovated.



The thickness of the insulation and the nature of the surface layer of the ventilation ducts vary depending on insulation material, climate zone and national standards in force. For this reason, Swegon does not offer any general recommendations. Most manufacturers of insulation material offer calculation programs for the calculation of sufficient and correct insulation.

In renovation projects, it is advisable to examine the existing ducts to determine whether they are sufficiently and correctly insulated.

Insulating in the right way is necessary for the ventilation unit to operate correctly.

2. Description of functions

2.1 Basic functions

How to activate and set the functions is described in Section 3, Application.

2.1.1 Fans

The fans can be controlled to different operation modes from a control panel or a Premium cooker hood.

- Away = a low airflow, which can be used when no one is present in the home.
- Home = normal airflow.
- Boost = a high airflow, used in connection with cooking, taking a sauna bath, drying laundry and similar activities.

The Away/Home operating modes can be controlled with the ventilation unit's built-in weekly timer; however the operating mode can always be changed from the Premium control panel or a Premium cooker hood.

The airflow boost time is selected manually to 30, 60 or 120 minutes from a Premium control panel. When the unit is controlled from a Premium cooker hood, the fan's boost time is 60 minutes and the time that the damper is open can be selected to 30, 60 or 120 minutes.

2.1.2 Temperature

The user sets a desired supply air temperature, normally 13–20 °C. This set value is a so called setpoint, i.e. the temperature that the ventilation unit makes an effort to reach, if conditions allow this.

A rotary heat exchanger collects heat energy from the extract air and transfers it to the supply air. When the heating output of the heat exchanger is not enough, the following takes place:

- 1) If an electric air heater is installed in the ventilation unit, it is switched on.
- 2) If the supply air does not reach the desired temperature, or if no electric air heater is installed, the controller decreases to speed of the supply air fan.
- 3) If the supply air still does not reach the desired temperature, the controller stops the supply air fan.

The air heater can be switched off from the control panel if heating is not required.

The summer night cooling function can be used for so-called free cooling. This function utilises the cool outdoor air at night to cool down the home. When heat recovery is not needed, an automatic summer function stops the rotary heat exchanger. When the indoor air is colder than the outdoor air, the rotary heat exchanger is started for "the recovery of cooling energy". (The limit values can be adjusted from a Premium control panel.)

2.1.3 Protective functions

The electric air heater has two protective functions.

- The excess temperature (thermal overload) protection switches off the heater, if the temperature exceeds 50 °C. The protection automatically resets itself when the heater has cooled down.
- The excess temperature protection switches off the heater, if the temperature exceeds 90 °C. The protection must be manually reset by pressing a push button on the heater.
- The temperature sensor, T2, for supply air temporary decreases the fan speed if the supply air becomes too cold. If the temperature of the supply air drops below +12 °C, the supply air fan is stopped (this is protects against moisture condensing on the outer surfaces of the supply air duct).

The heat exchanger is equipped with an freeze protection. When the weather is cold, there is risk freezing inside the heat exchanger. To counteract this, the controller reduces the speed of the supply air fan. This protective function automatically resets itself when the temperature increases.

The fans have a thermal overload cutout, which stops them if the temperature rises too high. The controller also stops the fans if a serious malfunction occurs in the ventilation unit. When the temperature drops or the malfunction has been remedied, the protection automatically resets itself in both cases.

2.2 Optional equipment – automated control equipment

How to activate and set the functions is described in Section 3, Application. The connection of optional equipment is described in the wiring diagram in Section 7, Technical data.

The optional items of equipment can be used for achieving the type of control required in the following way:

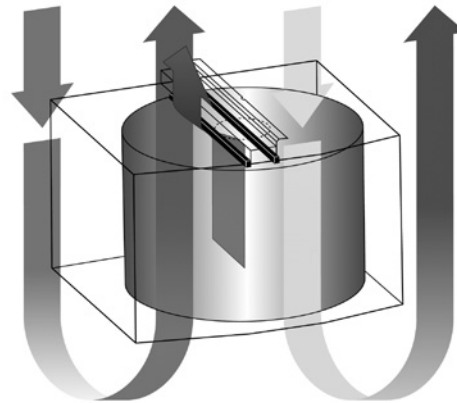
- **Boost timer.** The boosted operation mode can be switched in from a control panel or a Premium cooker hood. A separate boost timer (push button) can be installed in another place, e. g. in a sauna, bathroom, scullery, etc.
- **Humidity sensor.** Detects whether a preset limit value, e.g. 60 % relative humidity (RH), is exceeded and switches the fan to operate in the boosted flow mode. It can be placed in a sauna, a bathroom, a scullery, etc. The sensor voltage is 24 V DC.
- **Separate fireplace switch.** The function can be switched in from a control panel or a Premium cooker hood. A separate fireplace switch (push button) can be installed in another place, e. g. next to an open

fireplace. The speed of the extract air fan decreases and the speed of the supply air fan increases for a few minutes. This produces excess pressure in the home and in this way "creates" a draught in the chimney, which prevents smoke from entering the room when you light the log-fire.

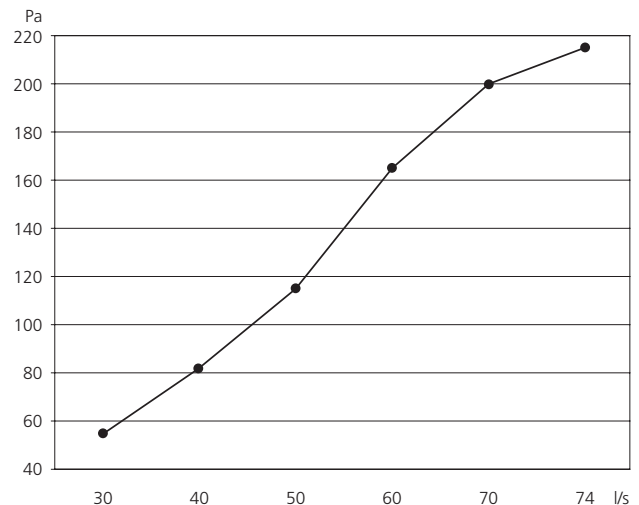
- **Occupant detection sensor.** The sensor detects movement in the home and increases the fan speed to the Home value. This improves the operational economy if the home is not regularly occupied.
- **Carbon dioxide sensor.** The sensor is available in two variants: It is suitable in cases where the number of persons varies. Carbon dioxide sensor of standard type: Increases the fan speed from the Home setting to the Boost setting when a preset limit value is exceeded, e.g. 900 ppm. Carbon dioxide sensor: Increases the fan speed from the Away setting to the Home setting when a preset limit value is exceeded, e.g. 700 ppm. The sensor increases the fan speed to the Boost value when a preset maximal value is exceeded, e.g. 900 ppm.
- **Filter guard.** The guard measures the pressure differential across the filter. The pressure differential increases when the filter becomes fouled. When the accumulation of dust reaches the preset limit value, an alarm is initiated to alert the user that the filters need to be changed. The alarm is activated in response to the difference in pressure while the fans are running at the Home speed.
- **Compensation for negative pressure.** Negative pressure arises in the home when a separate cooker hood or central vacuum cleaner is used, since the extract airflow becomes substantially higher than the supply airflow. A separate sensor (that e.g. senses the difference in pressure) can transmit a signal to the controller to increase the supply air flow from the unit to restore balance.
- **Supervision (DDC).** Certain functions can be controlled from superior control system. See the connection schedule for optional items of equipment in Section 7, Technical data.
- **Home/Away switch.** For example, systems controlled from a cooker hood, generally have a separate Home/Away switch (optional extra) by the front door. The switch starts the Away function in the ventilation unit. The switch can be a standard switch of optional type. See Section 7.

2.3 RECOtite

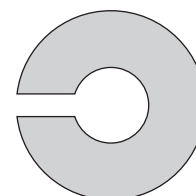
A RECOtite pressure equalizer equalizes the difference in pressure between the extract air and the supply air sections, and, as a result, no leakage flow of air occurs any longer at this point. The leakage has been moved to the adjacent top seal, and the leakage flow now occurs from supply air to supply air. There are also flows below the pressure equalizer in the rotary heat exchanger. Consequently the heat recovery efficiency is not affected.



Tightness curve for RECOtite



! If the normal airflow of the ventilation unit is less than 30 l/s, the cover plate supplied with the unit should be fitted on top of the rotor to ensure normal operation, airflow velocities and the efficiency of the unit.



Cover plate

3. Application

3.1 To set the airflows

The home should have continuous air change to ensure a pleasant indoor climate and avoid damage to building elements due to humidity. The ventilation unit should be stopped only while service work is in progress.

The airflows should be set according to the ventilation plan and applicable regulations. For estimated values, use the sizing curves in Section 7, Technical data. A qualified person should set the ventilation unit's and the ventilation equipment's airflows using appropriate measurement equipment.

A low airflow when the home is unoccupied means economical operation. This saves on fan energy and the home heating system does not have to heat as much air during the cold season. An assessment of whether a low airflow is sufficient for removing impurities, moisture, etc. from the air should be made.

If the modular cable is lengthened within some building element (e.g. a wall), the cable should be lengthened in a 20 mm dia. tube as a precaution in case the need should arise to replace it in the future.

3.2 Premium cooker hood

The ventilation unit fan speeds and other settings should be entered via the Premium control panel. When you have entered these settings, the functions below will be available from the cooker hood control panel.

- The ventilation unit fan speed. The fans inside the unit can be controlled to operate at three speeds: Away/Home/Boost. One single press of the button will increase the fan speed one step. The period for the boost speed is preset to 60 minutes, after which the ventilation unit will return to normal airflow.
- The cooker hood damper. When preparing food or carrying out a similar activity, a 30, 60 or 120 minute damper-open period can be selected. One single press of the button will change the setting to the next damper-open period.
- The cooker hood lighting. On/Off.
- Alarms (flashing indicating lamps).

3.3 Premium control panel

When the power is switched on, the ventilation unit starts up in the Home operating mode. The start time is approx. 1 minute. After that, the control panel can be used. Likewise after a power failure, the ventilation unit starts up in the Home operating mode, if the power failure has cleared the memory.

The functions of the push buttons are described in the image.

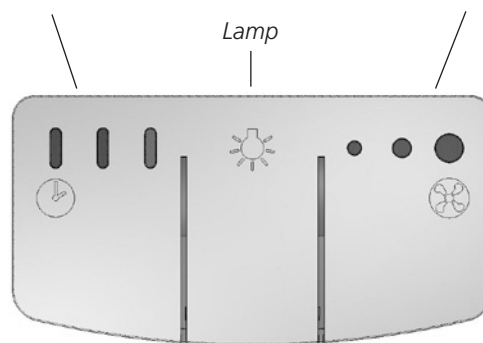
The indicating lamp on the control panel shows the various functions of the ventilation unit in different colours.

1. Steady green glow: The ventilation unit is operating normally.

⚠ Check that the ventilation unit, filters and ducts are clean and that there are no loose objects in them before commissioning the ventilation system.

Control panel, Premium cooker hood

Timer for the cooker hood damper, 30/60/120 min. *The ventilation unit fan speeds Away/Home/Boost, 60 min.*



Premium control panel

The diagram shows a square control panel with a central display screen. The screen displays 'Monday 0:01' and 'Away'. Below the screen are several buttons. Labels with arrows point to these buttons: 'Indicating lamp' points to a small lamp on the left; 'Fireplace function' points to a button with a fireplace icon; 'Return to previous menu level' points to a button with a left arrow; 'Menu' points to a button with a right arrow; 'Move to the right' points to a button with a right arrow; 'Setting function' points to a button with a right arrow; 'Selection of fan speed' points to a button with a fan icon; 'Move upward/downward' points to a button with up and down arrows; 'Entering values' points to a button with a right arrow.

2. Flashing green LED: The freeze protection has been activated.
3. Orange flashing glow: The electric air heater has been activated.
4. Orange glow: The heat exchanger has stopped (no heating required).
5. Flashing red LED: The automated protection system has stopped the fans due to a malfunction.
6. Red glow: Alarm or a service reminder.

3.4 Start menu

3.4.1 Fireplace function

The problem of too little draft in an open fireplace is most common in the summertime, when the temperature difference between indoor and outdoor air is small and the chimney is cold.

The fireplace function decreases the extract air fan speed and increases the supply air fan speed for approx. 12 minutes. This produces excess pressure in the home and in this way "creates" a draught in the chimney, which prevents smoke from entering the room when you light the log-fire.

An unnecessary or longterm use of the fireplace function in the wintertime may easily activate the frost protection function during an unnecessarily long time, which creates negative pressure in the house and smoke can be drawn into the house via the chimney.

N.B.! The ventilation unit is no source for necessary replacement air while a fire is burning in the fireplace.

The function is shown in the display only if the value is On in Menu 3.5.8.

3.4.2 Fan speed

Select the appropriate fan speed. Timer-controlled airflow boost is available. The operating mode can be manually changed, even when the fan speed is controlled by the weekly timer.

3.5 Main menu

You can enter settings that affect the operation and functions of the ventilation unit from the menu.

N.B.! A number of functions are available in the Main menu as well as in the Installation and Service submenu.

From the Montage and service menu, you select whether the function should be used and certain settings.

The function must be activated from the main menu.

3.5.1 Language

Select the appropriate language.

3.5.2 Install and service

See Section 3.6, Install and service.

3.5.3 Clock

Select date and time of day.

3.5.4 Summer night cooling.

This function utilises the cool night air to cool down the home. The rotary heat exchanger starts up and the fan speed increases.

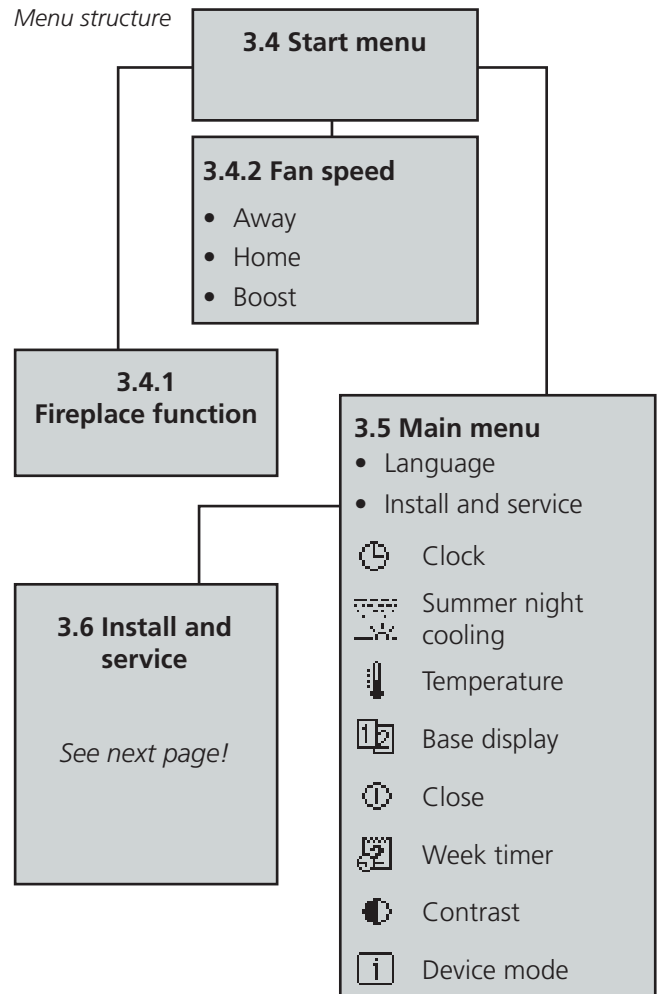
Conditions for start:

- The reheating function is not active.
- The temperature of the extract air is above 22 °C. The outdoor temperature is above 14 °C, but at least 1 °C lower than the temperature of the extract air. It is possible to change the temperature limits and select fan speeds.

3.5.5 Temperature

Setting of desired supply air temperature. The ventilation unit's heat exchanger and air heater are automatically activated in order for the desired temperature to be reached. The factory value of the supply air temperature is 17 °C.

Menu structure



3.5.6 Basic display

Basic display 1 is selected when the fan speeds in the Away/ Home/Boost steps are to be changed.

Basic display 2 is selected when the fan speeds are to be changed in five different steps.

3.5.7 To switch off the unit

The ventilation unit fans, the heat exchanger and an air heater, if fitted, are stopped. The circuit card is however still energised and the settings are preserved in the memory.

3.5.8 Fireplace function

Select ON as the value for this function, if you wish to use the function from the control panel display, otherwise select Off. See also 3.4.1 above.

3.5.9 Week timer

Four different programs can be selected on the weekly timer when the ventilation unit fans are running at the Home fan speed. During other times, the fans are operating at the Away fan speed.

3.5.10 Contrast

This function enables you to adjust the background contrast of the control panel.

3.5.11 Device mode

Shows the model of the ventilation unit.

3.6 Installation and service

The menu is can be opened by entering code 1234.

3.6.1 Alarms

The service reminder appears on the screen at six-month intervals. On completed service, the reminder is set to zero from the menu and a new period of six months begins. The time period can be altered from the Functions menu.

Alarms for malfunctions are displayed in the display.

3.6.2 Clock

"On" or "Off".

The clock is shown in the start menu.

3.6.3 Temperature

"On" or "Off".

The control function for the supply air temperature is shown in the start menu. Select On to use the function for setting the supply air temperature, otherwise select Off.

3.6.4 Measurements

Depending on the connected items of optional equipment, you can measure the carbon dioxide content (CO₂), temperature, difference in pressure, fan speeds, humidity content (RH) and control signal connections.

3.6.5 Controls

As a control means, carbon dioxide /CO₂) supervision (DDC) or weekly timer can be selected.

3.6.6 Fan speeds

N.B.! The Summer night cooling function should be deactivated whenever you change the fan speeds.

One of five fan modes (1–5) can be selected for each operating mode (Away, Home, Boost etc.).

After that you can select the various fan mode speeds as a percentage: 10–100 (separate for supply air and extract air).

If the modular cable is lengthened within some building element (e.g. a wall), the cable should be lengthened in a 20 mm dia. tube as a precaution in case the need should arise to replace it in the future.

Basic display 1

Three fan speeds (Away, Home and Boost) can be utilized.

Basic display 2

Five fan speeds can be utilized. This can be necessary when the home is cooled or when the ventilation unit is used in combination with a heating system.

3.6.7 To switch off the unit

The ventilation unit fans, the heat exchanger and an air heater, if fitted, are stopped. The circuit card is however still energised and the settings are preserved in the memory.

3.6.8 Factory settings

All settings except the fan speeds are reset to factory values.

3.6.9 Actuators

It is possible to select settings for duct equipment, the valve actuators or circulation air regulation.

3.6 Install and service

(code 1234)

- Alarms
- Clock
- Temperature
- Measurements
- Controls
- Fan settings
- Close
- Factory settings
- Actuators
- Functions
- El. heaters

3.6.10 Functions

Select ON as the value for Low pressure compensation, e.g. if the cooker hood has a differential pressure guard in the extract air duct of the cooker hood for this function, otherwise select OFF.

- Select ON as the value for Service reminder, if the function is to be used, otherwise select Off. The time interval (6 months) can be changed.
- Select ON as the value for Summer night cooling, if you wish to select the function in the menu, otherwise select Off.
- Select On as the value for Heating, if an air heater is installed, otherwise select Off. The limit value for high temperature is 50 °C. The temperature can be changed. Supply air fan ctrl is selected as the control means, this can be changed to Room controlled.
- Select On as the value for Filter guard, if a filter guard is installed, otherwise select Off.
- Select On as the value for the Fireplace switch function, if a fireplace switch is installed, otherwise select Off. The time period (6 min.) can be changed. Select whether or not the function should bypass the frost protection function. The fireplace switch function decreases the extract air fan speed and increases the supply air fan speed. The freeze protection works in the reverse manner: It stops the supply air fan and only allows the extract air fan to run.
- Select ON as the value for Boost, if a boost timer or a presence detector is installed, otherwise select OFF.

3.6.11 El. heaters(optional)

The temperature sensor, T2, for supply air temporary decreases the fan speed if the supply air becomes too cold. If the temperature of the supply air drops below +12 °C, the supply air fan is stopped (this is protects against moisture condensing on the outer surfaces of the supply air duct).

Select ON as the value for Electric air heater, otherwise select Off. Select 10 °C as the value for Outdoor air temp. This means that the air heater will not be activated, when the outdoor air temperature exceeds 10 °C. The temperature limit can be changed.

4. Service

4.1 Service reminder

The ventilation unit's control system is normally preset for displaying a service reminder every six months. If required, this function can be altered in the Installation and Service menu. From same menu you set to zero the service reminder after performed service.

4.2 To open the ventilation unit

Isolate the power supply voltage to the ventilation unit (pull out the mains plug from the wall socket). Wait a few minutes before you open the inspection covers on the ventilation unit, so that the fans will have time to stop and the air heaters can cool down.

4.3 Filter change

- To open the front inspection cover.
- Wait a few minutes, so that the fans have had time to stop and the air heaters, if fitted, have time to cool down.
- Change the filters.
- Close the inspection cover.

The filter should be cleaned every six months and should be replaced at least once per year.

4.3 Other servicing

To be carried out at least once per year.


- Withdraw the heat exchanger for inspection. If you withdraw the entire heat exchanger, you must also disconnect the quick-fit connector. Then unfasten the front plate.

Check that the drive belt is not worn. Replace, if needed.

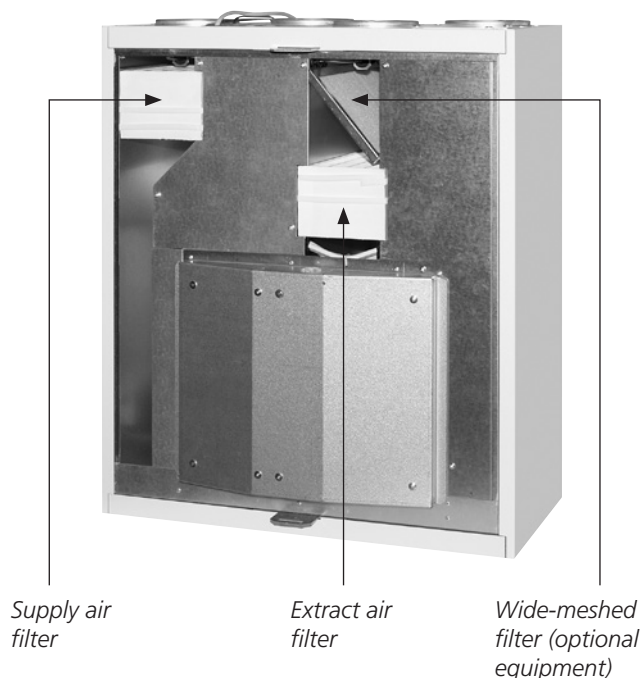
Check that the heat exchanger passages are not clogged. Clean with a soft brush, vacuum cleaner or under running water, if needed. If you find it necessary to use detergent, choose one that does not corrode aluminium. Protect the heat exchanger drive motor to prevent contact with liquid.

N.B.! The passages of the heat exchanger should be dry before you refit it.

- Withdraw the fans for inspection. Unfasten the protective plates. Unfasten the retaining springs for the fans. Withdraw the fan downward from the front edge and then outward. If you withdraw the entire fan, you must also disconnect the quick-fit connector. Clean with a soft brush, vacuum cleaner, compressed air or under running water, if needed. If you find it necessary to use detergent, choose one that does not corrode aluminium. Be careful not to dislocate the impeller balancing weights. Protect the fan motor from contact with liquid.
- Clean the inner surfaces of the ventilation unit, if needed.
- Check that the condensate discharge outlet is not clogged and check its outflow by pouring water on the bottom of the ventilation unit.

 **The ventilation unit must not be operated without filters!**
Use only filters recommended by Swegon in the ventilation unit.
Find the correct filters in Section 6, List of components.

The locations of the filters in a ventilation unit in the right-hand version. The locations of the filters are mirror-inverted in a left-hand model.



The condensate discharge opening is located on the bottom of the ventilation unit, near the rear edge.

5. Alarms and troubleshooting

5.1 Alarms

5.1.1 Alarms from a Premium control panel

- The indicating lamp is flashing red: The automated protection system has stopped the fans due to a malfunction. The alarm text is shown in the display. Remedy the malfunction.
- The indicating lamp is lit with a steady red glow: Alarm or a service reminder. The alarm text is shown in the display. Remedy the malfunction or perform service on the ventilation unit.
- The indicating lamp indicates certain unit functions with other colours. See Section "3.3 Premium control panel"

5.1.2 Alarms from the cooker hood control panel

The alarm is given in the form of a flashing indicating lamp. Investigate the cause by connecting a Premium control panel in accordance with the description in Section 5.1.1.

5.2 Troubleshooting:

Eventual malfunctions are shown by alarm texts in accordance with 5.1.1. Investigate the components related to the malfunction and remedy the malfunction.

5.2.1 The supply air is not sufficiently heated Low temperature setting for the supply air

Investigate and, if needed, increase the temperature from the menu.

The electric air heater is faulty

The air heater has one excess temperature and one overheating protection functions. The alarm is initiated in accordance with Section 5.1.1. If either of these are activated.

The over temperature protection resets itself automatically when the temperature decreases. The overheating protection must be reset by pressing a push button on the air heater. If you hear a click when you press in the button, this indicates that the overheating protection has been reset.

Excessively high temperature may be due to too low an air flow through the air heater. The cause can be that a filter, outer wall grille or supply air device is clogged. Replace and clean, if needed.

Tip: In most models, the outer wall grill has an insect net. If the net has small mesh, dust and insects can clog it. During certain conditions it is also liable to freeze. Remove the net or replace it with a net with larger mesh.

An excessively high temperature can also be due to the supply air fan having stopped or that the temperature sensor has been shaken loose from its position in the fan intake.



Freeze protection

During periods of cold weather, the heat exchanger is liable to freeze if the extract air is humid. A protective function then automatically reduces the speed of the extract air fan. Under such conditions, variations in the fan speed are therefore normal.

The LED on a Premium control panel flashes green when the freeze protection is activated.

Badly isolated ventilation ducts

If the unit emits warm air but the supply air discharged from the air diffuser feels cold, this may be due to poorly insulated ventilation duct.

The ventilation unit does not obey commands

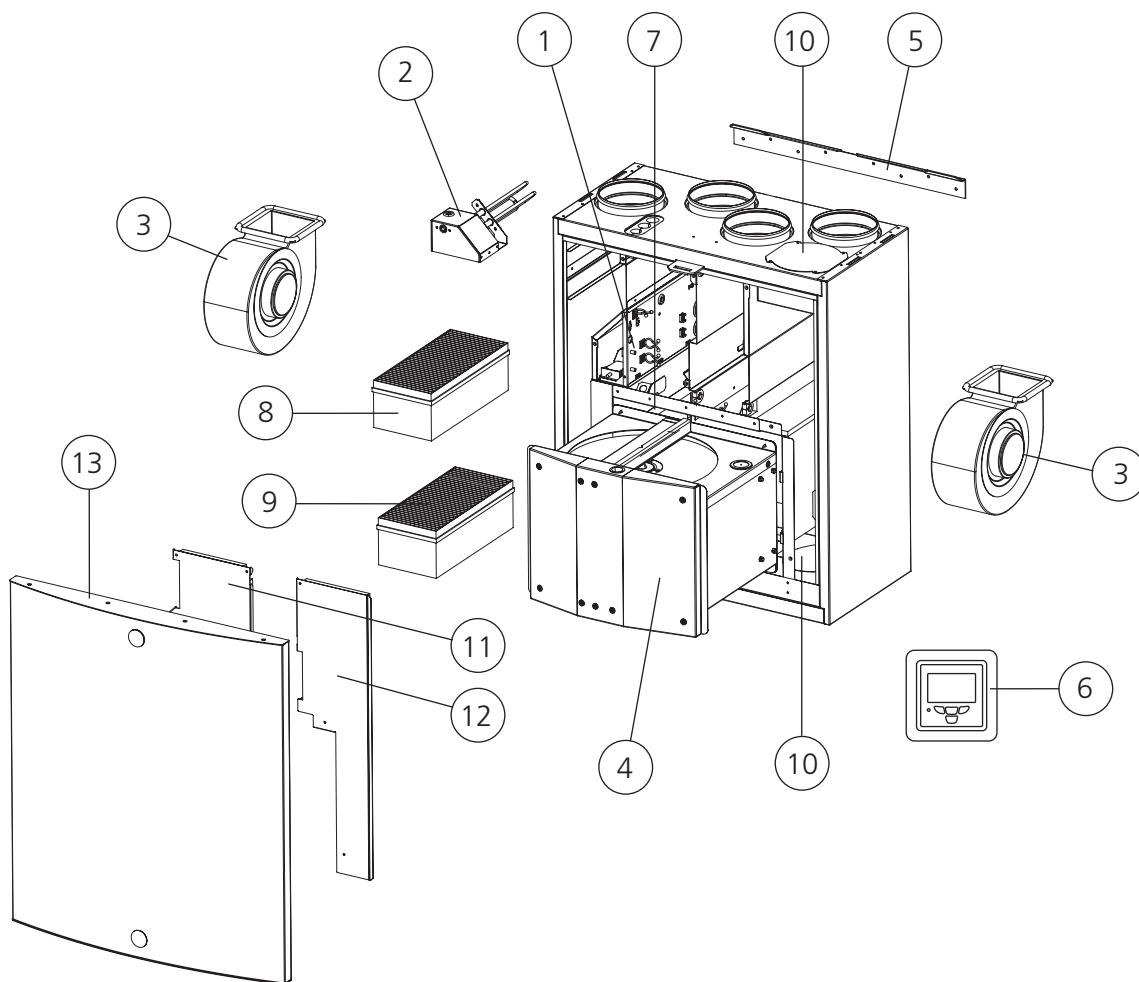
If two overlapping commands are issued, the unit obeys the command with the highest priority, e.g. the freeze protection.

Priority 1: Commands from outer sensor or the ventilation unit's protective functions.

Priority 2: External supervision (DDC).

Priority 3: A normal control panel or the operation of the cooker hood.

6. List of components

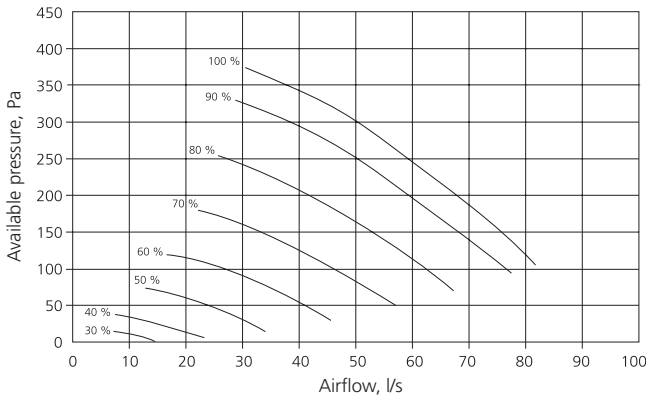


| Position | Component | Data | Order no. |
|----------|--------------------------------|--|-----------------------------------|
| 1 | Circuit card | | 603012 |
| 2 | Reheating cassette, R/L | | R: P-RO85-R-EK, L: P-RO85-L-EK |
| 3 | Fan motor | G3G146-ED23-06 119 W (R) | 60842 |
| 3 | Fan motor | G3G146-ED23-56 119 W (L) | 60844 |
| 4 | Heat exchanger (complete), R/L | | R: 61050, L: 61051 |
| 5 | Wall mounting bracket | | 6010208 |
| 6 | Premium control panel | | P-SP148 |
| 7 | Temperature sensor | | F56251 |
| 8/9 | Set of filters | 1 pc. exhaust air, F7 1 supply air filter, F7 | P-RO85-FS |
| 10 | Bypass for kitchen | | |
| 11 | Front plate, inlet, R/L | | 602166 |
| 12 | Front plate, outlet, R/L | | 602165 |
| 13 | Front access panel | | 602164 |

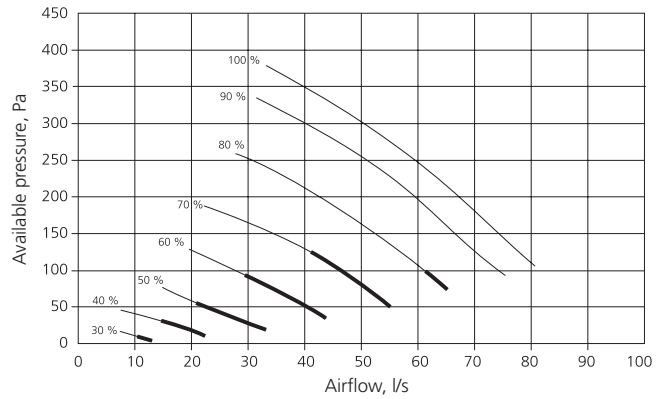
7. Technical data

7.1 Sizing

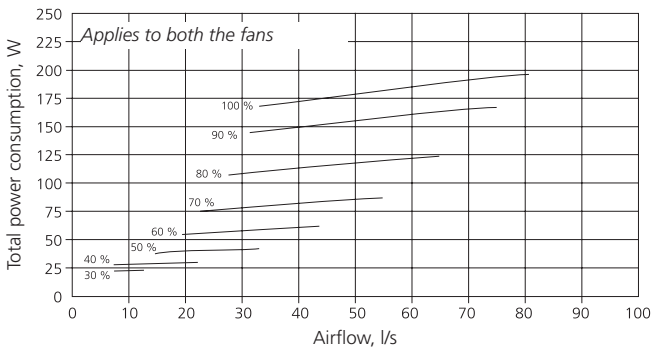
Supply air



Extract air



Power consumption



Extract air from the cooker hood

| | | | | |
|--------------|----|----|----|-----|
| Setting in % | 65 | 73 | 85 | 100 |
| Airflow, l/s | 28 | 32 | 39 | 43 |

Sound emitted to the surroundings

| Fan setting % | Sound pressure level with sound absorption of 10 m ² L _p (10), dB(A) * | |
|---------------|---|-------------------|
| | Mounted against the cooker hood | Mounted on a wall |
| 45 | 26 | 29 |
| 55 | 29 | 33 |
| 65 | 32 | 37 |
| 73 | 34 | 39 |
| 85 | 37 | 42 |
| 100 | 40 | 45 |

*) Equivalent to a normally insulated room.

Sound emitted to supply air duct

| Fan setting % | Sound power level broken down into octave bands, L _{wokt} , dB | | | | | | | | Weighted together sound power level, L _{WA} , dB (A) |
|---------------|---|--------|--------|--------|---------|---------|---------|---------|---|
| | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz | |
| 45 | 62 | 55 | 51 | 49 | 45 | 39 | 30 | 15 | 51 |
| 55 | 64 | 60 | 56 | 54 | 51 | 46 | 39 | 26 | 56 |
| 65 | 68 | 65 | 59 | 57 | 54 | 51 | 44 | 32 | 60 |
| 73 | 70 | 68 | 62 | 60 | 56 | 53 | 47 | 37 | 62 |
| 83 | 73 | 70 | 65 | 62 | 59 | 57 | 51 | 42 | 65 |
| 100 | 79 | 75 | 69 | 66 | 62 | 61 | 56 | 47 | 69 |

Sound emitted to extract air duct

| Fan setting % | Sound power level broken down into octave bands, L _{wokt} , dB | | | | | | | | Weighted together sound power level, L _{WA} , dB (A) |
|---------------|---|--------|--------|--------|---------|---------|---------|---------|---|
| | 63 Hz | 125 Hz | 250 Hz | 500 Hz | 1000 Hz | 2000 Hz | 4000 Hz | 8000 Hz | |
| 45 | 57 | 47 | 41 | 38 | 28 | 22 | 12 | - | 39 |
| 55 | 58 | 50 | 46 | 42 | 31 | 24 | 14 | - | 43 |
| 65 | 58 | 54 | 50 | 47 | 34 | 27 | 18 | - | 47 |
| 73 | 58 | 57 | 52 | 48 | 36 | 29 | 20 | - | 49 |
| 83 | 59 | 60 | 56 | 50 | 39 | 32 | 25 | 10 | 52 |
| 100 | 63 | 63 | 59 | 53 | 42 | 36 | 30 | 15 | 55 |

7.2 Wiring diagram, ventilation unit and cooker hood

The ventilation unit conforms to enclosure class IP X4.

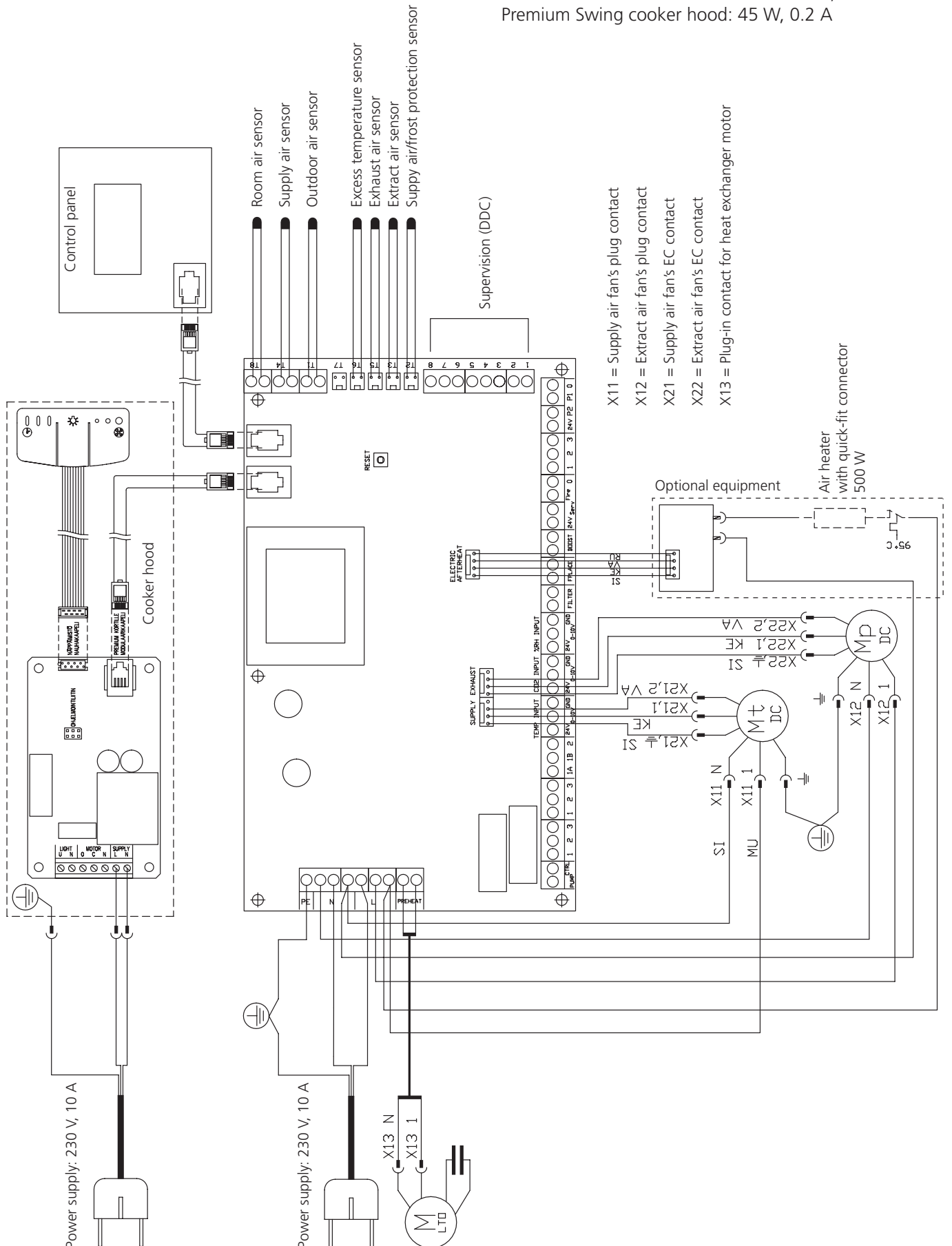
7.3 Power consumption

Max. total power consumption

Ventilation unit: 250 W, 1.1 A (with optional equipment 750 W, 3.3 A)

ILMO Premium Classic cooker hood: 15 W, 0.1 A

Premium Swing cooker hood: 45 W, 0.2 A



7.4. Wiring diagram, optional equipment

Priority 1: Commands from outer sensor or the ventilation unit's protective functions.

Priority 2: External supervision (DDC).

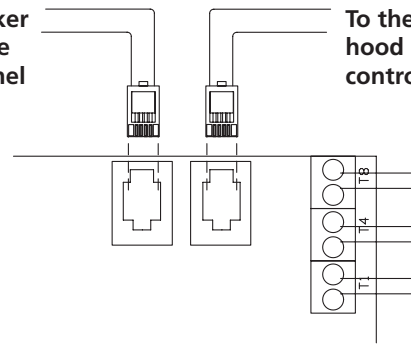
Priority 3: A normal control panel or the operation of the cooker hood.

To connect the modular cable.

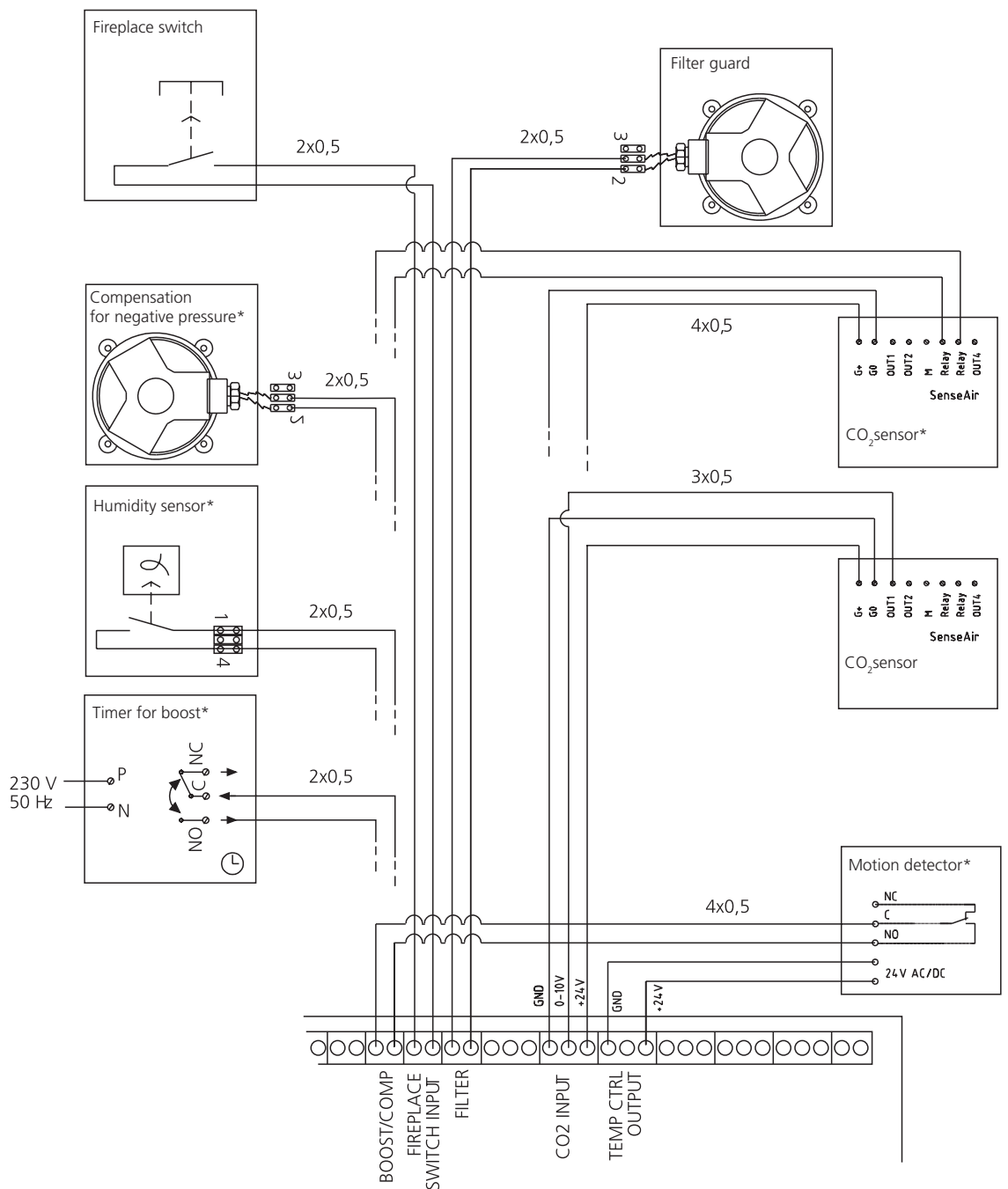
Control priority 3

To the cooker hood or the control panel

To the cooker hood or the control panel



Control priority 1



*) One of the following functions: Connect negative pressure compensation or boost to the BOOST/COMP contact. A separate **function can** also be connected to input 4 on the DDC terminal row. See DDC.

Supervision (DDC)

Control priority 2

- The functions of wiring terminals 2–5 can be activated/deactivated from the control panel's service menu.
- The status outputs (terminals 6 and 7) can always be used

8: 0 V (GND)

7: Actual value for supply air temperature: 0–10 V DC

6: Actual value for fan speed: 0–10 V DC

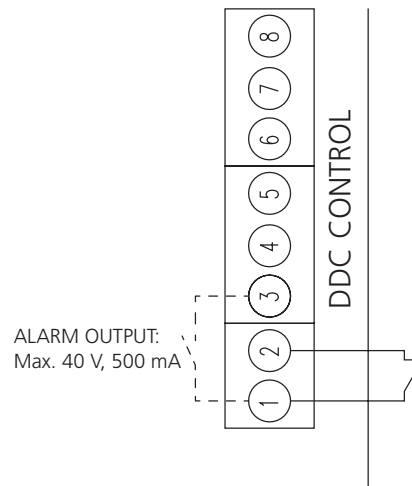
5: Setpoint for supply air temperature: 0–10 V DC

4: Setpoint for fan speed: 0–10 V DC

3: Group alarm – signal from the ventilation unit (earthed contact)

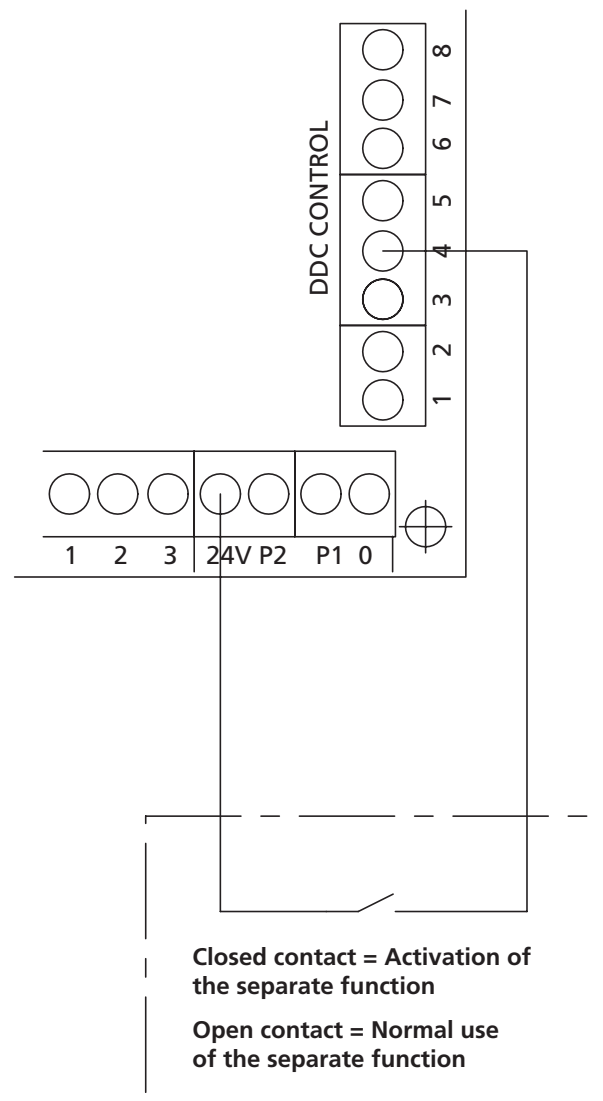
2: Emergency stop (if contact between terminals 1–2 is broken, the ventilation unit will stop).

1: 0 V (GND)

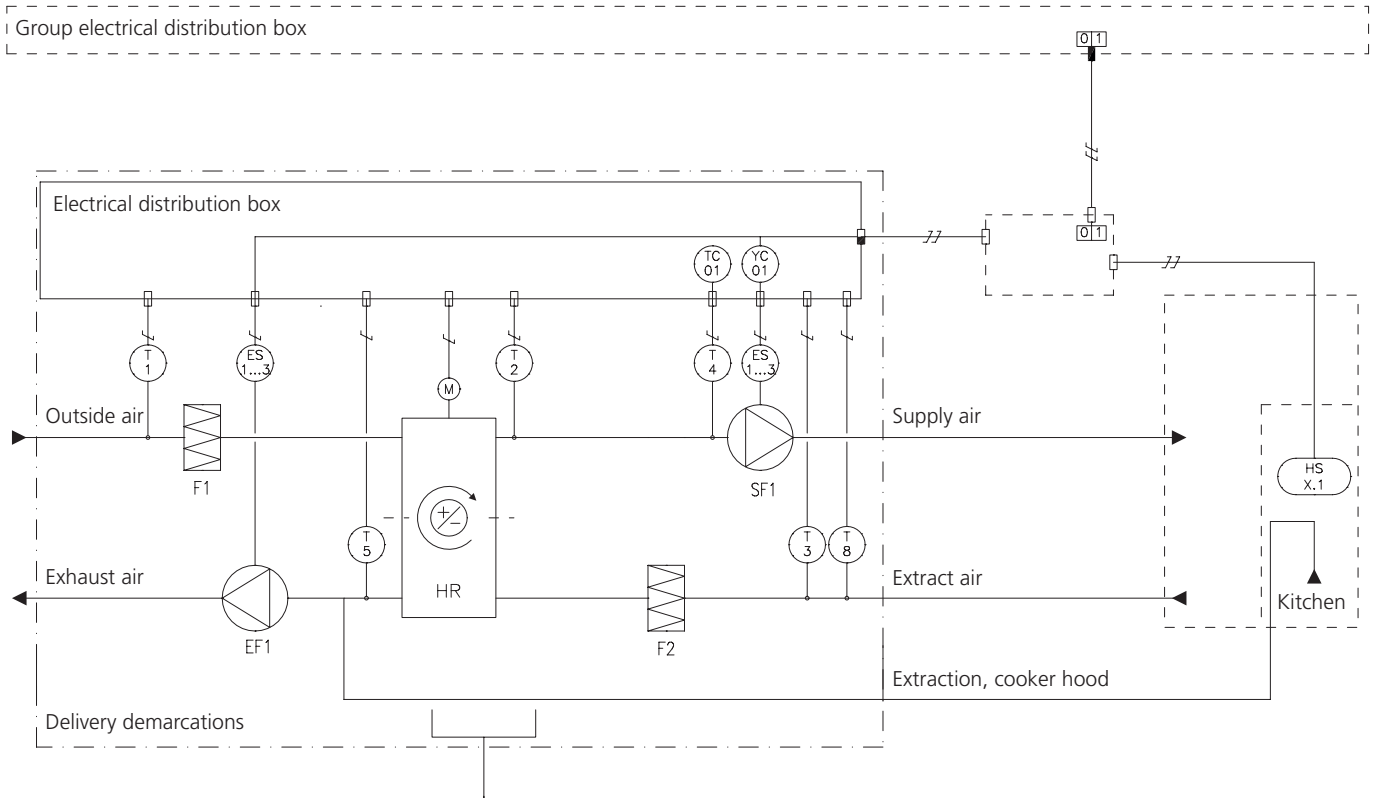


Separate function via DDC terminal row (e.g. Home/Away switch)

- The following operating parameters of the ventilation unit should be changed. These changes can be made in the Premium control panel:
- Change the fan speed in the Boost mode from **5** to reach the **4** from the: **Installation and service/Fan speeds/Situations menu.**
- Set the separate supply and extract airflow functions to speed **5** from the: **Installation and service/Fan speeds/Speeds menu.**
- Activate control of the fan speed via DDC from the: **installation and service/Control/DDC/Fan control menu.**



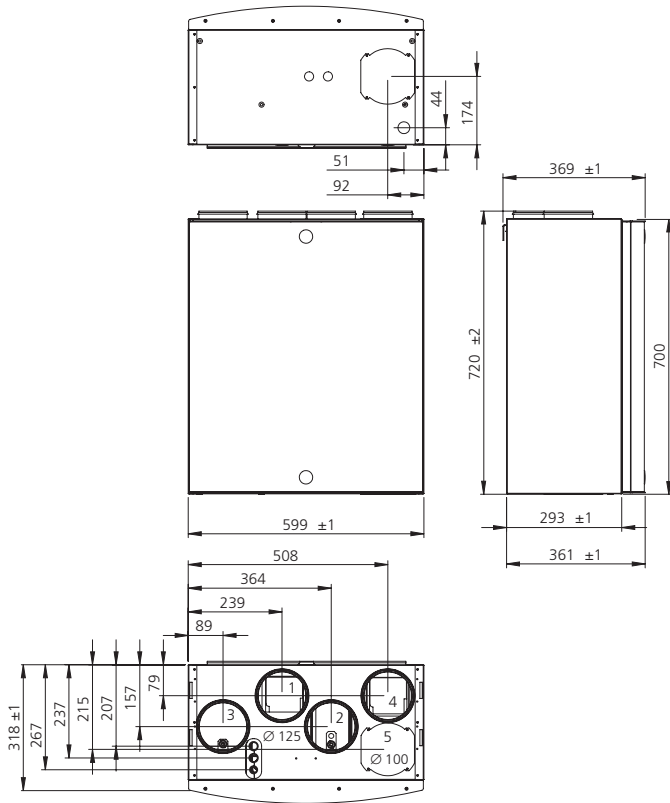
7.5 Control diagram



| | |
|-------|---|
| T1 | Temperature sensor, outdoor air |
| T2 | Temperature sensor, supply air |
| T3 | Temperature sensor, extract air |
| T4 | Temperature sensor, air heater *) |
| T5 | Temperature sensor, exhaust air |
| T6 | Temperature sensor, air heater thermal overload *) |
| T8 | Temperature sensor, room air |
| TC01 | Thermostat, excess temperature in air heater *) |
| TZ03 | Thermal overload protection, electric air heater *) |
| HSx.1 | Contact for timer for the cooker hood damper |
| F1 | Supply air filter |
| F2 | Extract air filter |
| HR | Heat exchanger |
| SF1 | Supply air fan |
| EF1 | Extract air fan |

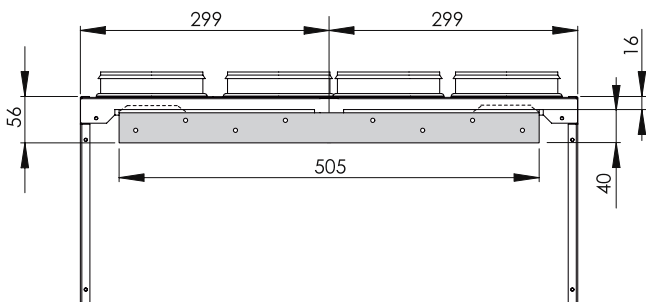
*) The electric air heater is optional equipment for Model R85.

7.6 Dimensions



| Duct Connections | | | | |
|------------------|-------------|-------------|-------------|-------------------------|
| 1 | 2 | 3 | 4 | 5 |
| Supply air | Extract air | Outside air | Exhaust air | Extract air cooker hood |

Wall mounting bracket



7.7 Weight

Ventilation unit: 51 kg.
 Premium Classic cooker hood mounted below the ventilation unit: 59 kg.

7.8 Optional equipment

- Reheating cassette, 500 W
- Filter set (1 pc. G3 + 2 pcs. F7)
- Premium control panel
- Premium Classic cooker hood for location below the ventilation unit (stainless steel, aluminium, silver, white)
- Premium Design cooker hoods for separate location (bypass for kitchen on the top side)
- mounting brackets for ceiling or wall installation
- Mounting frame with moisture barrier
- Front cover plate (stainless steel, aluminium, silver, white)
- Optional equipment for Premium control system (see Item 2.2)

Each item of optional equipment is supplied with its own instructions for use.

8. Record of the settings


| Operation | Factory setting | Setting value |
|--|-----------------------|---------------|
| Temperature, supply air | 17 °C | |
| Base display | 1 | |
| Clock | On | |
| Temperature | On | |
| Fan speeds (situations). | | |
| Away | 1 | |
| Home | 3 | |
| Boost | 5 | |
| Cooling | 4 | |
| Refresh | 4 | |
| Heating | 3 | |
| Fan speeds | | |
| Speed 1, supply air fan | 40 % | |
| Speed 1, extract air fan | 60 % | |
| Speed 2, supply air fan | 65 % | |
| Speed 2, extract air fan | 65 % | |
| Speed 3, supply air fan | 75 % | |
| Speed 3, extract air fan | 75 % | |
| Speed 4, supply air fan | 85 % | |
| Speed 4, extract air fan | 85 % | |
| Speed 5, supply air fan | 100 % | |
| Speed 5, extract air fan | 100 % | |
| Negative pressure compensation | Off | |
| Service reminder | On | |
| Interval | 6 months | |
| Summer night cooling | On | |
| Start temperature (in start menu) | 22 °C | |
| Fan speed (in start menu) | No change | |
| neutral zone (in Installation and service menu) | 1 °C | |
| Temperature limiting (in Installation and service menu) | 14 °C | |
| Heating | Off | |
| Temperature limiting | 50 °C | |
| Control | Supply air controlled | |
| Filter guard (optional equipment) | On | |
| Fireplace function (with fireplace switch) | Off | |
| Boost (with extra timer or presence detector) | On | |
| Input, heat exchange limit | | |
| Min. temperature | 12 °C | |
| Neutral zone | 3 °C | |
| Outdoor temperature limit, for activation of air heater | 10 °C | |

| Airflows | Project planning values | Setting value |
|---------------------------|-------------------------|---------------|
| Supply air | l/s | l/s |
| Room 1: | | |
| Room 2: | | |
| Room 3: | | |
| Room 4: | | |
| Room 5: | | |
| Room 6: | | |
| Supply air, total | | |
| Extract air | l/s | l/s |
| Room 1: | | |
| Room 2: | | |
| Room 3: | | |
| Room 4: | | |
| Room 5: | | |
| Room 6: | | |
| Extract air, total | | |

| Other comments |
|----------------|
| |
| |
| |
| |

| Data for the ventilation unit |
|--|
| Write down the unit-specific data here (on the identification plate of the ventilation unit) for use when you contact a service company. |
| |
| |
| |

| Preset by: | Date: |
|------------|-------|
| | |

 **Remember to explain the use of the item of optional equipment and how to service it to the user/caretaker!**

Guarantee Conditions

GUARANTOR

Swegon ILTO Oy
Asessorinkatu 10, FI-20780 St. KARINS, Finland.

GUARANTEE PERIOD

The product has a two (2) year guarantee as from the date of purchase.

SCOPE OF THE GUARANTEE

The guarantee covers defects that have arisen during the guarantee period, which have been reported to the manufacturer, or been declared by the guarantor or a representative of the guarantor, and which refers to design, manufacture or material defects as well as consequential defects that have arisen on the product itself. The above mentioned defects are to be cleared by putting the product in working order.

GENERAL GUARANTEE LIMITATIONS

The guarantor's guarantee liability is limited in accordance with these guarantee conditions and the guarantee does not cover damages to property or personal injury. The guarantor is not bound to comply with verbal promises in addition to this guarantee.

LIMITATIONS ON GUARANTEE LIABILITY

This guarantee is granted on condition that the product is used in a normal way or under comparable circumstances for the intended purpose, and that the instructions for use have been observed.

The guarantee does not cover faults that have been caused by the following:

- Transport of the product.
- Careless use or overloading the product.
- Failure to follow the instructions dealing with installation, operation, maintenance and care.
- Incorrect installation of the product or incorrect location at the place where it is used.
- Circumstances which are not the fault of the guarantor, such as excessive variations in voltage, damage by lightning and fire or other accidents.
- Repairs, maintenance or design modifications that have been done by unauthorized parties.
- The guarantee does not cover insignificant defects from an operational standpoint such as scratches on surfaces.
- Parts, which through handling or normal wear are exposed to a greater than normal risk of failure, such as lamps, glass, porcelain, paper and plastic parts as well as fuses are not covered by the guarantee.
- The guarantee does not cover settings, information about usage, maintenance, service or cleaning which is normally described in the instructions for use or the work required to rectify faults caused by the user neglecting to observe the warning or installation instructions, or investigation of such.

CHARGES DURING THE GUARANTEE PERIOD

The authorized service partner will not charge the client for repairs, replaced parts, repair work, transport or travelling expenses necessary for carrying out the repair work that are within the scope of the guarantee.

This however assumes the following:

- The defective parts are handed over to the authorized service partner.
- that the repair begins and the work is carried out during normal working hours. The authorized service partner has the right to charge the client for extra costs for urgent repairs, or repairs carried out outside of normal working hours. However if the defects may cause a health risk or substantial economic losses, the defects will be repaired immediately without extra charge.
- A service vehicle or public means of transportation that follows a timetable (boats, airplanes or snow vehicles are not considered public means of transportation) can be used in conjunction with the repair of the product or replacement of defective parts.
- The costs for dismantling and installation of equipment, which is securely mounted to the place where it is used, cannot be considered as being abnormal.

REMEDIAL MEASURES WHEN A FAULT HAS BEEN DISCOVERED

If a defect is discovered, the client must without delay report the defect to the manufacturer or to an authorized service partner. Specify which product has a fault (product model, type designation on the guarantee card or on the product identification plate, serial number); describe the type of fault as accurately as possible, and the circumstances under which the fault has arisen. If there is risk that the fault may have consequential impact on the environment, steps must be immediately taken to prevent this from occurring. A prerequisite for valid guarantee liability is that the manufacturer or a representative of the manufacturer is given opportunity to inspect the defects reported in the guarantee claim before the repair work begins. A prerequisite for repair under guarantee is also that the client, in a satisfactory manner, can prove that the guarantee is valid (= written receipt of purchase). After the guarantee period has expired, guarantee claims, which have not been submitted in writing prior to the expiration date of the guarantee, are not valid.

EG Compliancy Declaration

We at:

Swegon ILTO Oy
Asessorinkatu 10
20780 Kaarina
FINLAND

Hereby affirm that

The Swegon CASA ventilation unit
complies with the following EG Directives:

The Machinery Directive (2006/42/EC)
The Low Voltage Directive (2006/95/EC)
The EMC Directive (2004/108/EC)

and that the following harmonized standards have been applied:

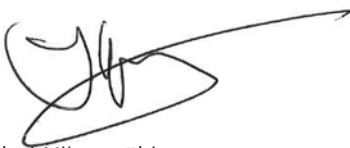
EN 60335-1:2002 +A1:2004 +A11:2004 +A12:2006 +A13:2008 +A2:2006
EN 60204-1:2006 +A1:2009
EN 60034-5:2001 +A1:2007
EN 55014-1:2006
EN 55014-2:1997 +A1:2001 +A2:2008
EN 61000-3-2:2006
EN 61000-3-3:2008

Person authorized to compile the technical documentation:

Name: Rami Wiberg
Address: Asessorinkatu 10, 20780 Kaarina, FINLAND
Email: rami.wiberg@ilto.fi

Date: Kaarina 01.11.2010

Signature:



Ilari Niittymäki
CEO
Swegon ILTO Oy