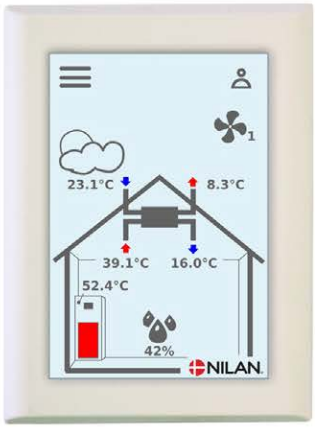
INSTALLATION INSTRUCTIONS

CTS602 HMI BY NILAN



Compact S Polar (English)

Version 3.00 - 29.04.2019

NILAN®
OUTSTANDING INDOOR CLIMATE

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Power supply

CAUTION
Always disconnect the power supply to the unit if an error occurs that cannot be rectified via the control panel.

CAUTION
If an error occurs on electrically conductive parts of the unit, always contact an authorised electrician to rectify the error.

CAUTION
Always disconnect the power supply to the unit before opening the unit doors, for instance for installation, inspection, cleaning and filter change.

Heat pump domestic hot water

CAUTION
Avoid direct contact with the heating system pipes in the heat pump as they can get very hot.

CAUTION
To protect the heat pump against damage, it is fitted with the following safety equipment:

- Electronic temperature monitoring

The heat pump must undergo suitable service inspections under applicable legislation and regulations to keep it in good condition and in compliance with safety and environmental requirements.

Responsibility for maintenance of the heat pump rests with the owner/user.

Disposal

Ventilation unit

Nilan's units consist mainly of recyclable materials. They must, therefore, not be mixed with household waste, but must be delivered to your local recycling center for disposal.

Heatpump

Concerning disposal of units with heat pumps, it is important to contact the local authorities for information about correct handling of these. The heatpump contains the refrigerant R134a, which is harmful to the environment if not handled correctly.

General information

Introduction

General information prior to installation

The following documents are supplied with the unit:

- Installation instructions
- Software instructions
- User manual
- Wiring diagram

Instructions can be downloaded from Nilan's website: https://www.nilan.dk/en-gb/frontpage/download

If you have questions regarding installation of the unit after having read the instructions, contact your nearest dealer of Nilan products. You can find Nilan dealers on www.nilan.dk/en-gb/frontpage/download/dealers.

The purpose of these instructions is to advice the installer on correct installation and maintenance of the unit.

ATTENTION

The unit must be started up immediately after installation and connection to the duct system. When a ventilation unit is not in operation, humidity from the rooms may penetrate into the ducts and create condensation. Condensate water may leak out of the valves and damage furniture and floors. Condensation may also form inside the unit, which can damage its electronics and fans.

The unit is delivered fully tested and ready for operation.

Unit type

Product description

Compact S is a ventilation unit with heat recovery which also produces domestic hot water.

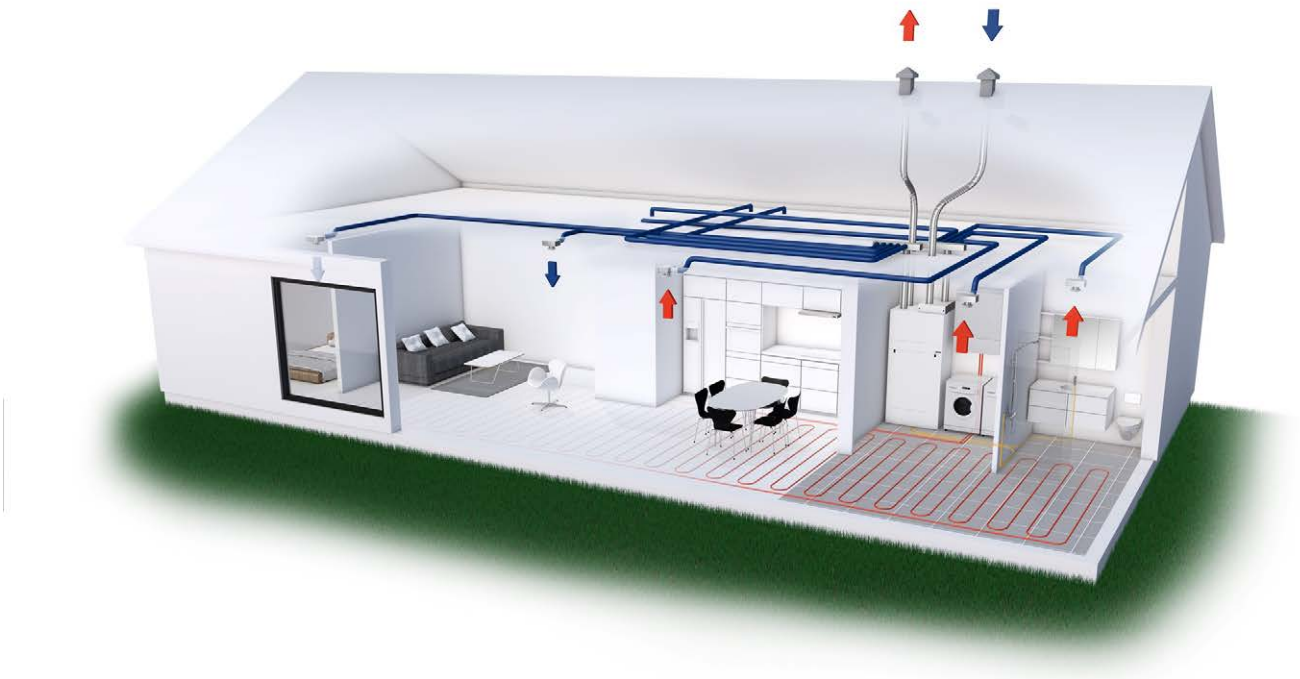
Compact S is designed for air flows of up to 375 m^3/h at 100 Pa external counter-pressure.

The ventilation draws humid and vitiated air out of the dwelling via bathroom, lavatory, kitchen and utility room. It introduces fresh air into living areas such as living room, bedrooms and study. Cold outdoor air is heated up in the heat exchanger (heat recovery) by warm extract air.

In addition to a (counterflow) heat exchanger, Compact S has an integral heat pump. The heat pump uses the heat remaining in the extracted air following heat recovery in the heat exchanger to produce hot water. In case of high hot water consumption, there is a 1.5 kW electric supplement heater in the hot water tank, which can also be used to heat the water.

In the winter, the heat pump can be used to heat the supply air during periods in which no domestic hot water is being produced. The supply air can be heated up to 34 °C.

As the heat pump is reversible, in the summer it can be used for cooling supply air. Compact S can cool supply air by up to 10 °C. However, It does not function as an air condition unit as it operates with relatively low air exchange. Cooling the supply air removes humidity from the indoor climate. This provides comfort for users of the dwelling, even at high indoor temperatures. Compact S is able both to provide cooling and produce domestic hot water, so it could be said that the cooling of the supply air is "free of charge".

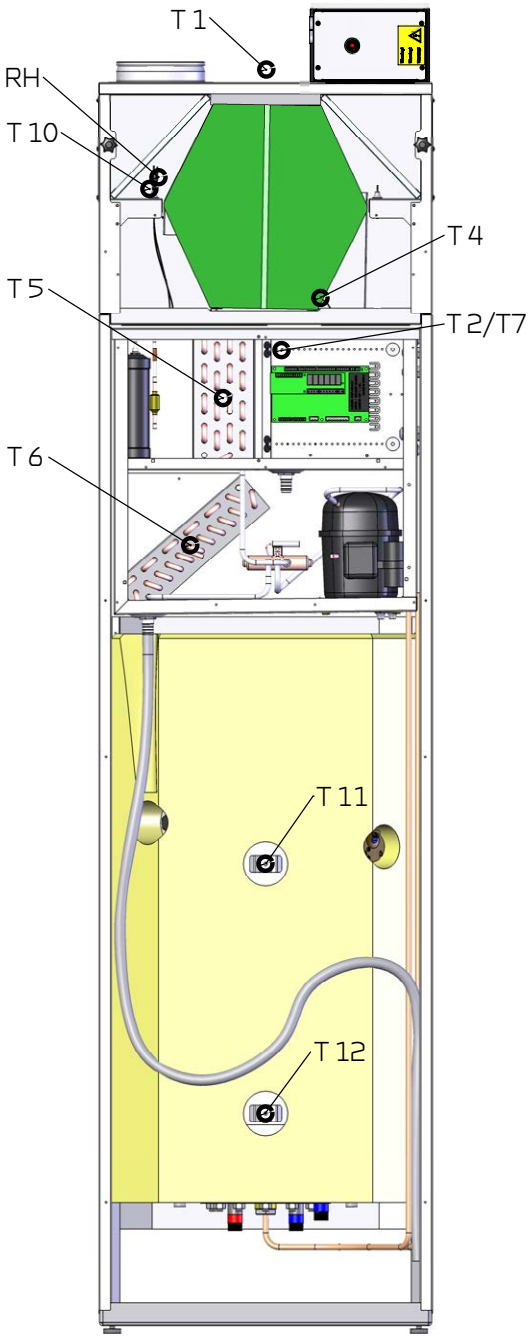


The unit

Compact S:

1. Duct connections
2. Additional duct connections (the spouts can be moved individually from the top to the side of the unit)
3. Door to filter change (loosen the two thumb screws to dismount the door)
4. Extract air filter
5. Outdoor air filter (pollen filter placed here if required)
6. Counterflow heat exchanger
7. Heat pump
8. Automation
9. Fans
10. Bypass damper
11. Pre-heating element (Polar version only)
12. 180 L hot water tank
13. 1.5 kW electrical supplemental heater (with overheating protection; must be pushed by outages)
14. Condensate drain with water trap
15. Solar panel coil (SOL version only)
16. Electronically monitored sacrificial anode
17. Plumbing connections
18. Emergency operation
19. Control panel
20. 8-pole plug

Temperature sensor overview



Temperature sensor inside the unit

T1: Outdoor air (before pre-heating element)
T2: Supply air
T4: Extract air after counterflow heat exchanger
T5: Condenser
T6: Evaporator
T10: Extract air
RH: Humidity sensor

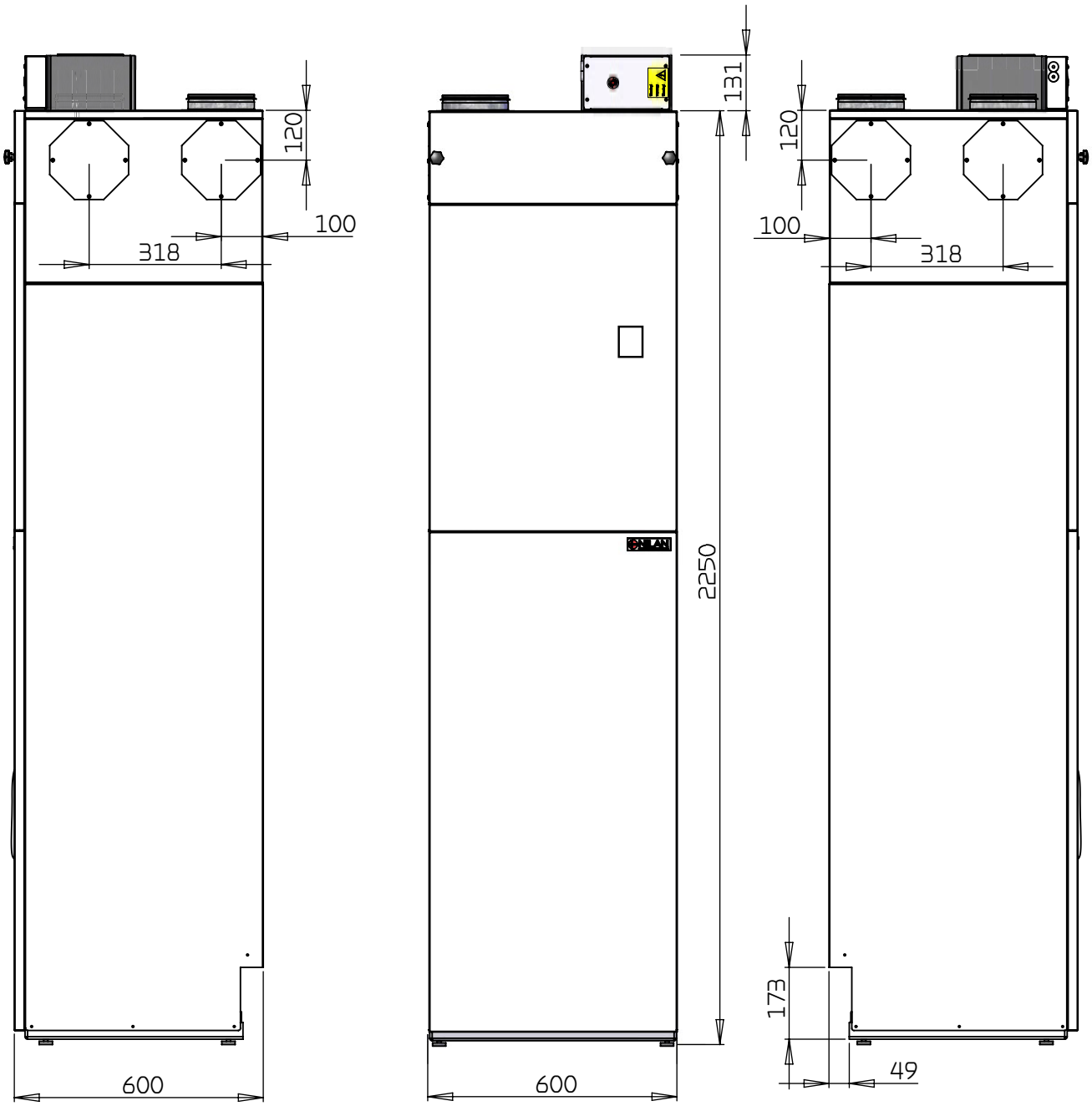
Temperature sensors outside the unit

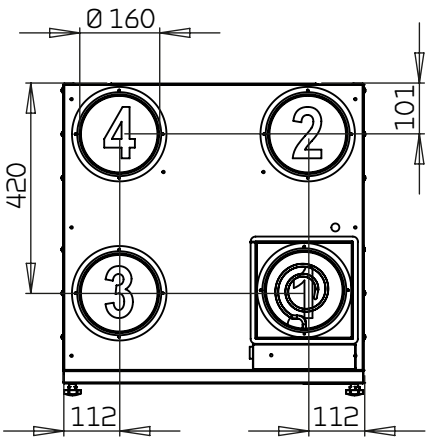
T7: Supply air after electrical after-heating element (accessory) When installing a heating element, T2 changes its name to T7
T8: Outdoor air before pre-heating element (accessory)
T9: On after-heating element (accessory)

Temperature sensors int the hot water tank

T11: Top of tank
T12: Bottom of tank

Dimensional drawing Compact S Polar





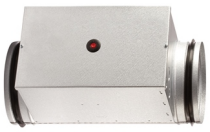
Connections:

1. Outdoor air
2. Supply air
3. Extract air
4. Discharge air

Weight: 162 kg.

Accessories

Electrical after-heating element



With an electrical after-heating element you can increase the supply air temperature to the desired level. Electrical after-heating elements are supplied for mounting in the supply air duct. Included are the necessary sensors.

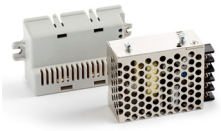
Pollen filter

As a standard, the unit is supplied with a plate filter.

If anyone in the household suffers from a pollen allergy, you can install a pollen filter in the outdoor air intake to minimize the proportion of pollen in the indoor air.

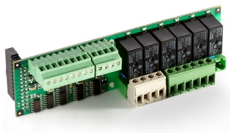
A pollen filter also removes approx. 50 % of harmful particles in outdoor air, so a pollen filter is recommended if you live in a large city or close to a motorway.

CO_2 sensor



Fitting a CO_2 sensor means the ventilation speed can be pre-programmed to run higher ventilation levels in the event of high CO_2 level in the extracted air. CO_2 levels can be programmed.

Expansion PCB



With an expansion PCB, the features of the CTS 602 control expand option to use user select 2.

EM-box

With an EM box it is possible to divide the extract air between the kitchen and the bathroom.

If a cooker hood is connected to the unit and is switched on, extract air from the bathroom will be reduced slightly to allow sufficient air for the cooker hood to extract kitchen fumes.

The EM-box has a fitted metal filter that clears the air in the cooker hood of grease particles effectively, and thereby protects the unit.

Safety group

The safety group consists of:
The safety group, which is made of brass, consists of a stop valve with an integral non-return valve, a safety valve and drain cock. It can be installed directly beneath the hot water tank.

Safety features

During periods with cooling ventilation, hot water in the tank can reach very high temperatures - up to 80 °C.

A maximum temperature of up to 60 °C can be set in the control system to prevent scalding, but active cooling is then limited.

To make full use of the cooling function, scalding protection should be fitted that mixes hot water with cold to bring the temperature down.

If a solar panel is used to supplement hot water heating, scalding protection must be fitted.

Flexible sound damper

To make it easy to service the unit in the future, we recommend that you fit a flexible connection between the unit and the duct system.

Nilan's flexible sound damper absorbs sounds effectively from both the duct system and from roof stacks.

Trolley

A trolley makes it possible to lift the unit of the pallet without physical strain. The same trolley can be moved to wheel the unit around.

Set up

Installation

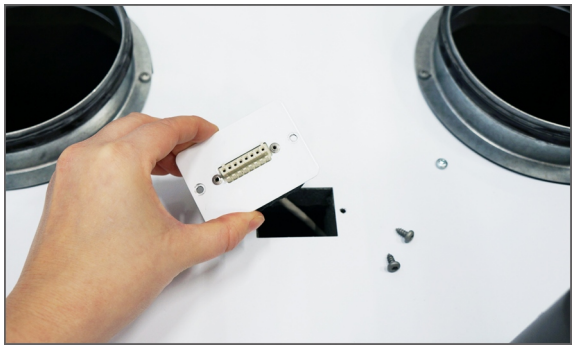
Transport into the dwelling

Compact S is supplied in one piece on a pallet, packed in cardboard.

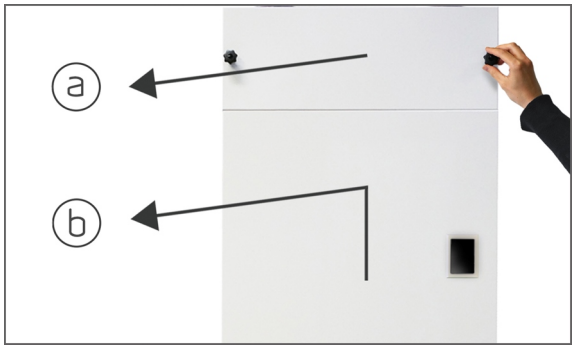
Nilan also offers a lifting trolley, with which the unit can be lifted directly off the pallet and into the building. If the unit is too high to get through the opening in the house, it is possible to disassemble the heat exchanger box so that you do not have to lay down the unit.

Disassembling the exchanger box

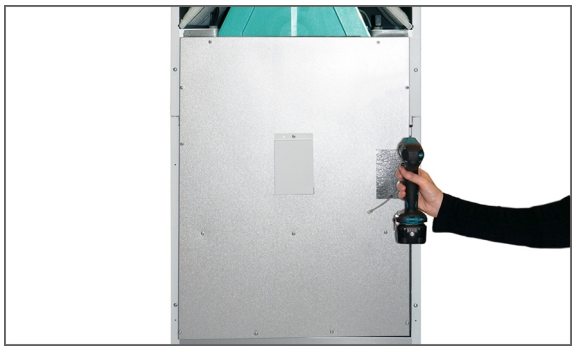
It may be necessary to disassemble the exchanger box when servicing fans and other components. It can also facilitate transport if the unit is to pass through a door.



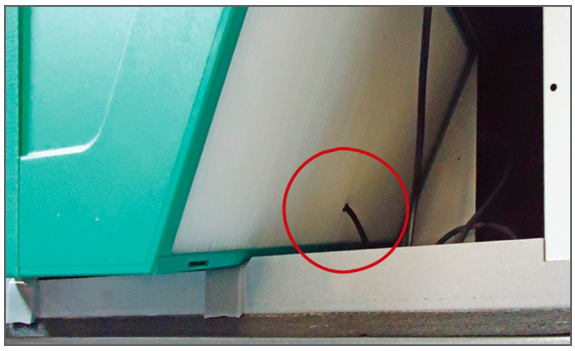
1. Remove the 8-pole plug located at the top of the unit and push it down into the hole.



2. Demount the front panels.
a: loosen the thumb screws and remove the filter door.
b: lift up the large door and remove it. Detach the RJ plug from the control panel on the rear side of the large door.

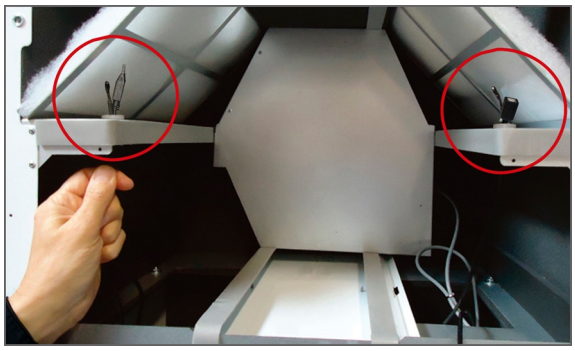


3. Remove the screws and demount the cover plate.

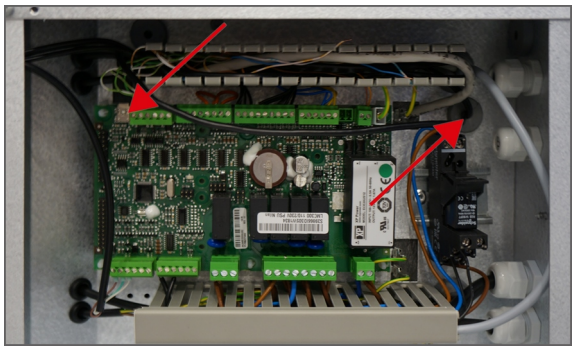


4. Pull out the T4 sensor from the counterflow heat exchanger.

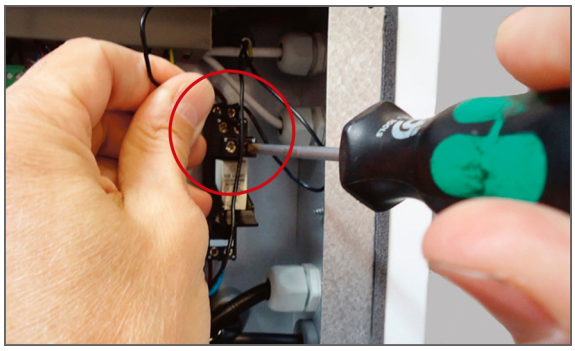
5. Pull out the counterflow heat exchanger from the unit.



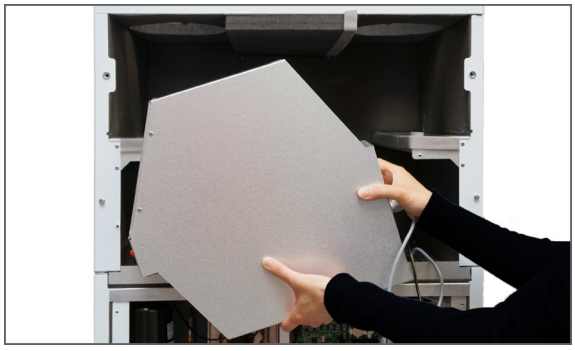
6. Sensor and humidity sensor are pulled down through the tulle in the shelf on the left side of the unit.
ATTENTION! On Compact S there is also a T1 sensor together with the USB plug in the shelf on the right side, which must also be pulled down through the tulle.
See the next point on how to remove the USB connector.
Filters can be pulled out to make room.



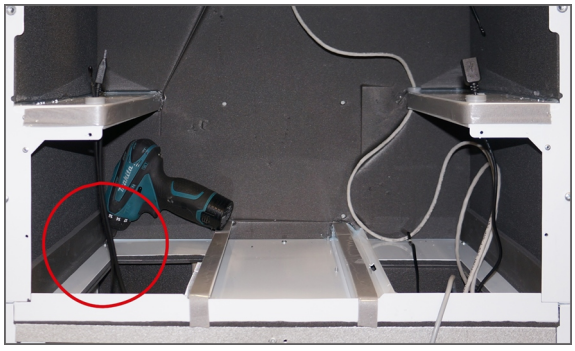
7. The plug of the USB cord is pulled out of the board, after which it can be pulled through the tulle.



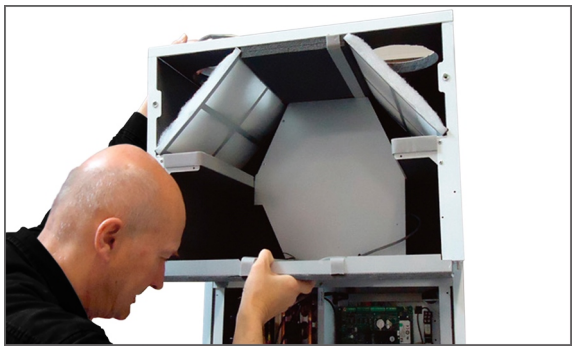
8. Unscrew the 4 wires from the terminals for the bypass motor.



9. The bypass box is pulled out.
Then push the 8-pole plug into the duct for the fan part.



10. Remove the 6 pcs. screws on the bottom.



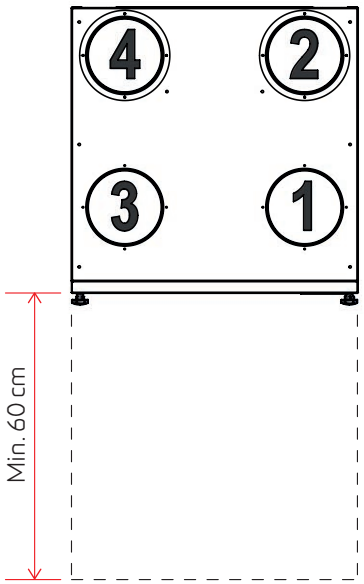
11. The top is lifted by the lower part.

Positioning the unit

ATTENTION
When positioning the unit, you should always consider future services and maintenance.

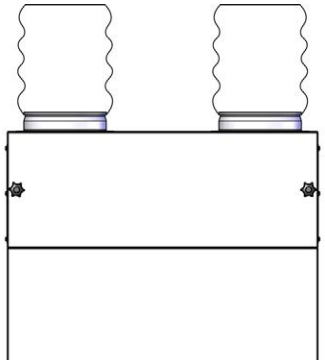
Filters must be easily accessible so they can be changed when necessary.

You must also be able to remove the heat exchanger for servicing and to replace fans and other components. It is therefore recommended that you leave a minimum of 60 cm of clear space in front of the unit.



When replacing or servicing certain components, such as fans, you will need to remove the top of the unit.
In order to make the top of the unit easily removable, flexible connectors should be fitted between the unit and the ducts.

If flashings are fitted above the unit, these must be easily removable.



ATTENTION
It is important that the unit is level to ensure proper drainage from the condensate tray.

ATTENTION
The unit produces little noise and only weak vibrations, but you should still take into account potential vibrations that can spread from the unit to individual building components. In order to separate the unit from its foundation, it is therefore recommended that you install vibration absorbers under the unit. There should be approx. 10 mm distance to other building components and to permanent fixtures.

ATTENTION
To minimise noise, it is recommended that the unit is positioned with its rear side against an outer wall.

Electric installation

Safety

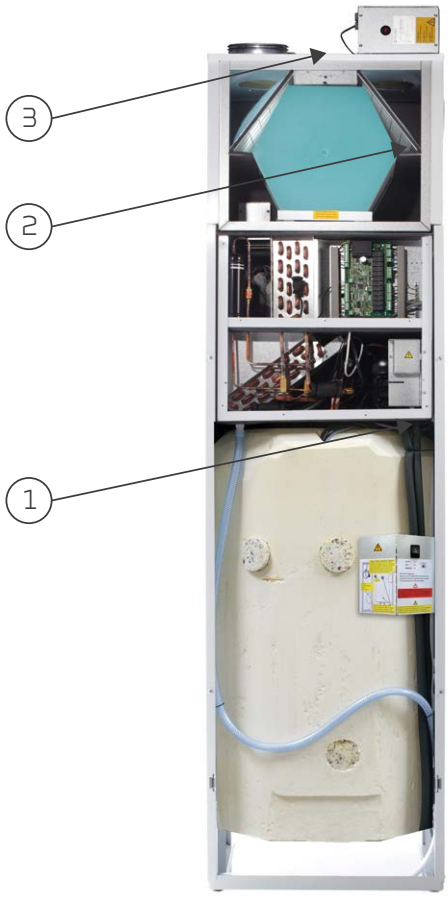
ATTENTION
All work must be carried out by qualified persons and in compliance with existing legislation and regulations.

ATTENTION
It is important that the power is off, if you do work to the electrical components of the unit.

It is important to check that wires are not damaged or squeezed during connection and use.

Connections overview

Connection of 230V is located behind the unit's large door, the cable can be routed to the back of the unit at the bottom. The connection to the control system via USB cable is situated behind the filter door at the front of the unit. An 8-pole plug is found on top of the unit.



1. Connection of 230V plug (remember electrical grounding), and connection of pre-heating element.
2. Connection of PC via a USB cable.
3. 8-pole plug with a T1 sensor in addition to options for user selection 1 and modbus/ control panel.

Control panel

Connection of CTS602 HMI control panel

The control panel is connected to the CTS602 circuit board and is installed to the front of the unit.

At the factory the control panel has been mounted on the large

Electrical connection of the unit

Power supply

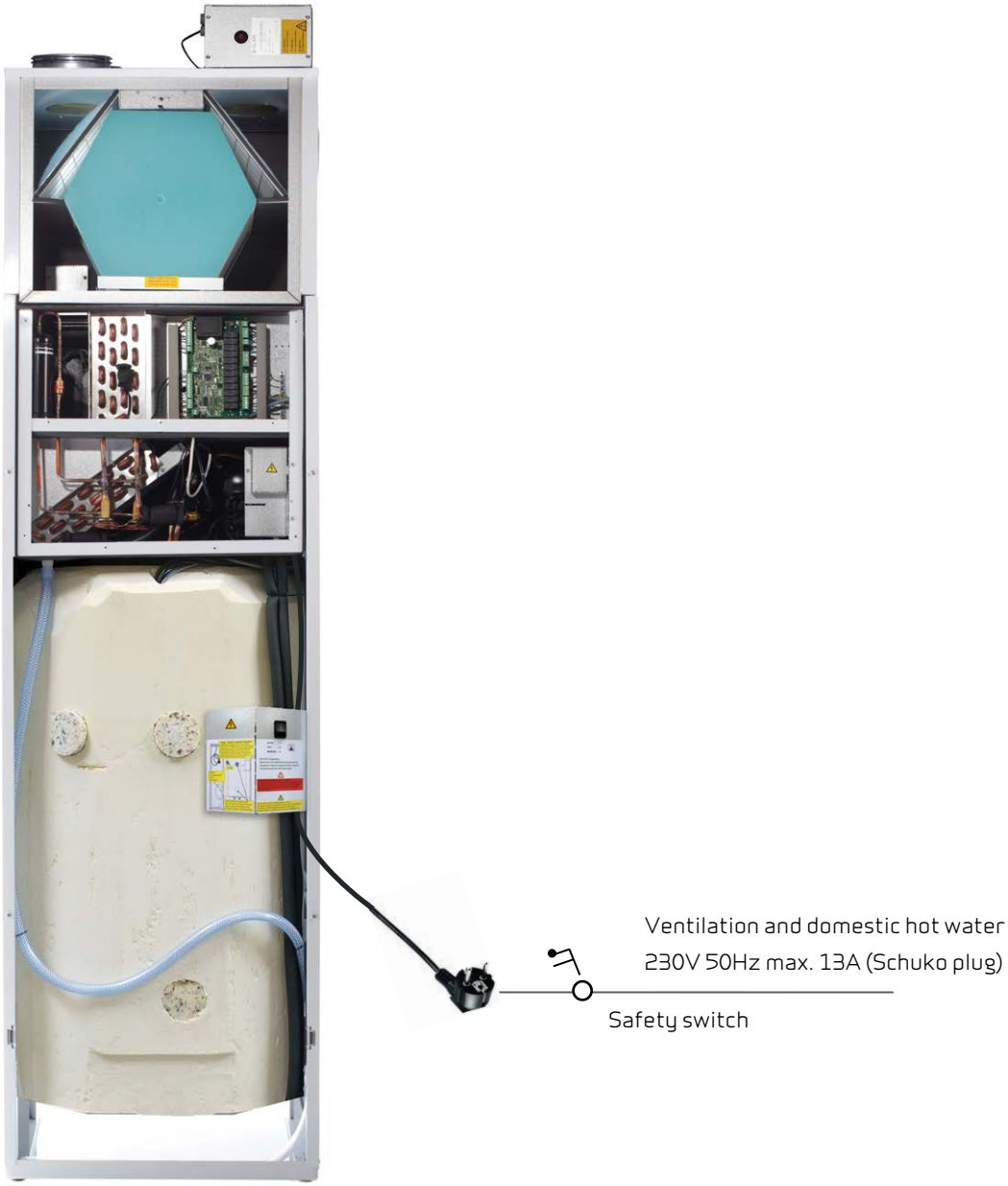
CAUTION
The power supply, including a safety switch, must be installed by an authorized electrician.

A power cable for connection to a power socket is included. It is important that the unit is earthed.

The unit is supplied with an EU plug for a 230V power supply. This means that, in principle, you have no protection of electrical grounding. You can secure electrical grounding by connecting the plug to a socket with a ground pin.

You can also connect an adapter for a plug with a ground pin. You can fit this plug adapter on the unit, so that the unit is secured electrical grounding to the earthing system.

Compact S Polar



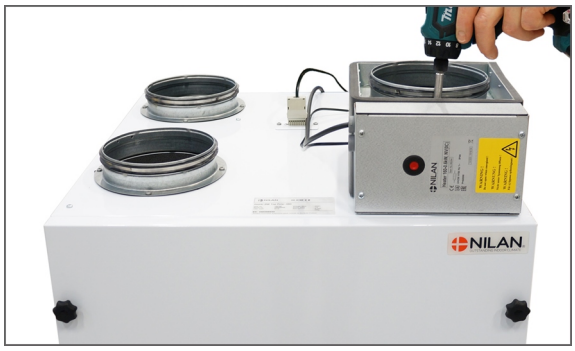
Electrical pre-heating element

The electrical preheating surface is mounted on top of or on the side of the unit in the outdoor air duct before the unit with the required temperature sensor.

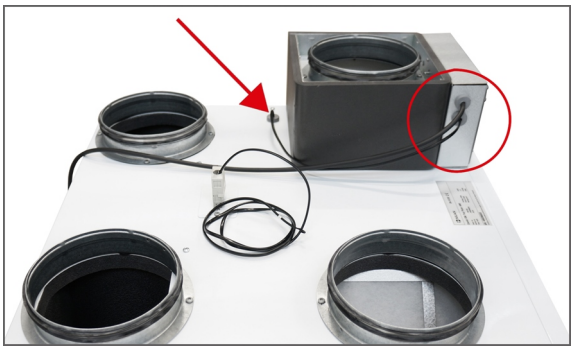
1. The electric heating surface is located under the unit.

2. Outdoor air spout are removed.

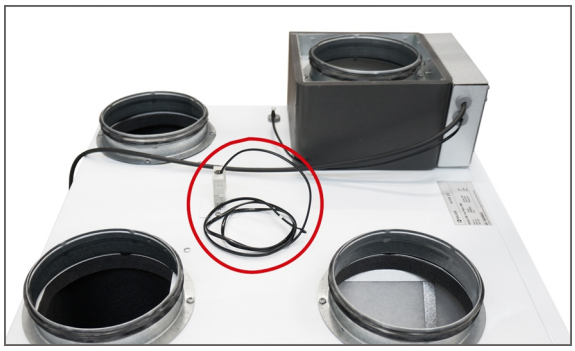
3. The preheating surface is installed at the outdoor air duct connection on the top (standard) or on the side of the unit (in which case the cover plate must be moved to cover the hole in the top).
Be sure to place the heating surface so that the cover for the automatic opening can be easily opened.



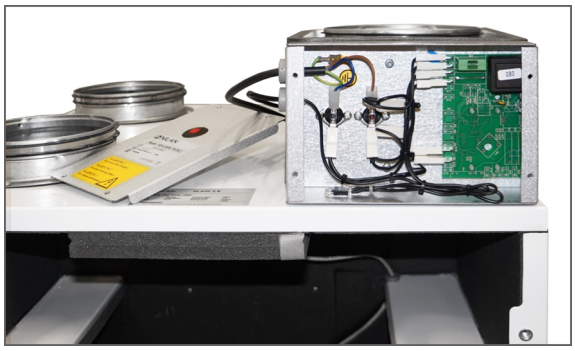
4. The spout is mounted on the heating surface, ready for duct mounting.



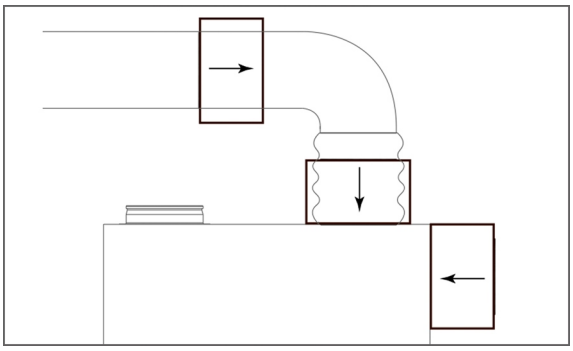
5. The temperature sensor for the preheating surface is pushed 8 cm into the tulle. Then, inside the unit, it can be seen hanging just above the outdoor air filter.



6. The T1 sensor is pulled from the 8-pole outlet into the outdoor air duct (30 cm before the preheating surface).



7. The power supply cable is pre-mounted in the unit and the preheating surface connected with Phase (F), Zero (N) and Ground (J).



8. The preheating surface can be mounted on the top or side of the plant, as well as in the duct. The power supply cable is 2 meters extra for duct mounting.

Electrical connection accessories

Connection to user selection and modbus

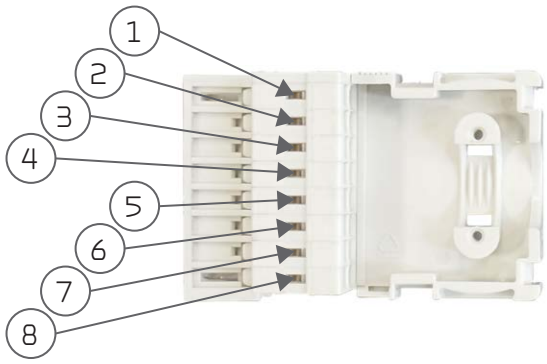
User selection: Connection to the user selection can be used, for instance, to control operation of a cooker hood. This happens via a potential free contact in the cooker hood that sends a signal to the unit. The unit then increases ventilation when the cooker hood is on. Connection happens in pin 4 and 5 of the 8-pole plug.

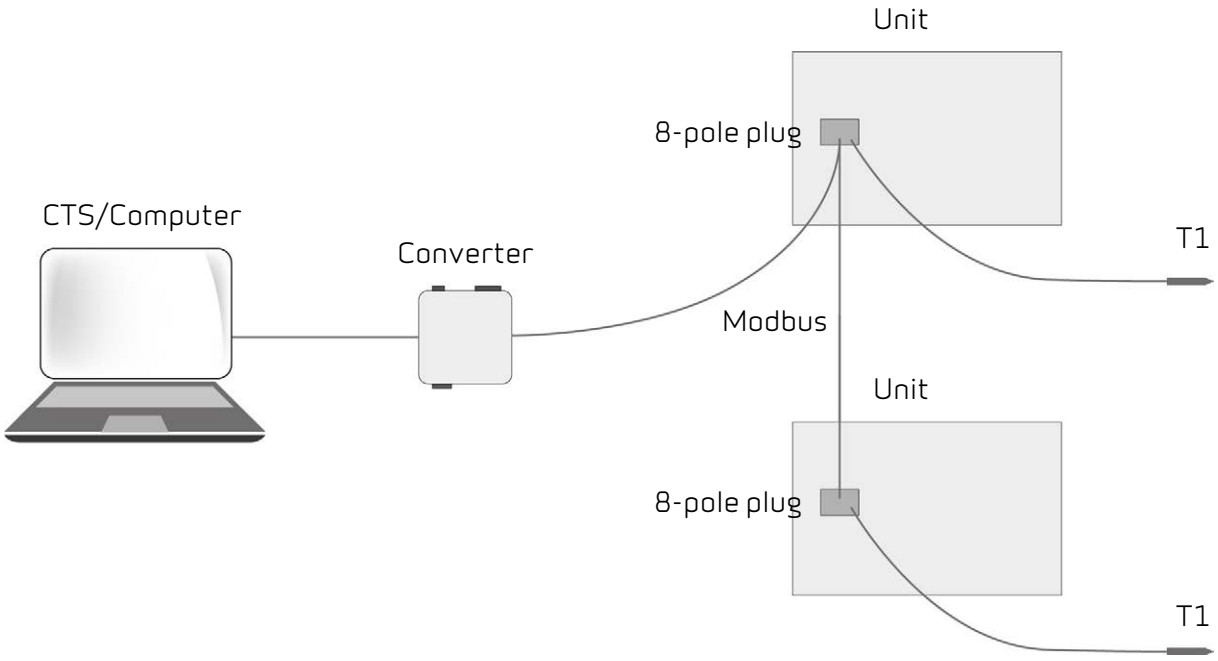
User selection can also be used for other functions such as for creating imbalance in supply air and extract air ventilation.

Modbus: You can communicate with the unit via modbus, which can be connected in pin 1 (GND), pin 6 (A1) and pin 7 (B1) of the 8-pole plug.

Please consult the user manual for software settings etc.

Connect the plug to the unit in point 3: Connections overview.





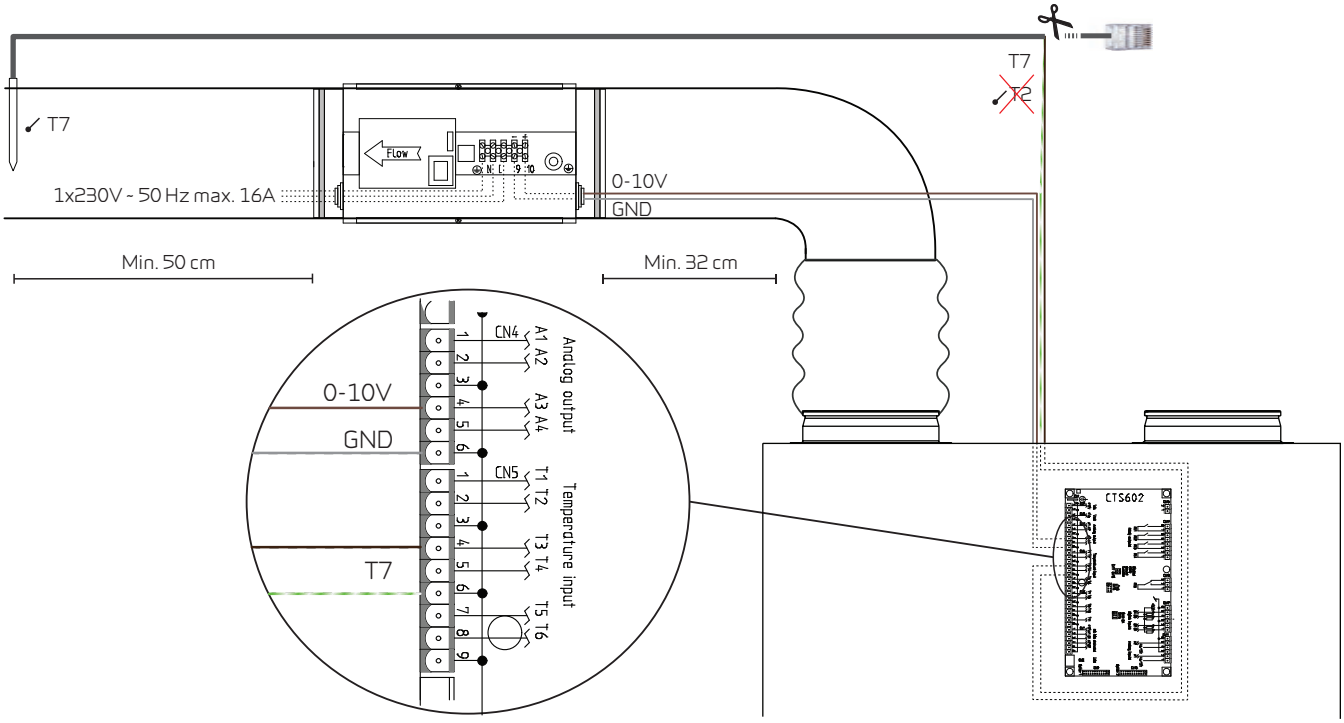
Electrical after-heating element

An after-heating element is necessary if you want to control the supply air temperature.

The electrical after-heating element can be purchased for installation in the supply air duct. The required sensor and connectors for the unit are included.

Cut off the RJ 45 plug at the heat-shrink sleeve connection and fit the wire on the circuit board.

ATTENTION
The T7 temperature sensor has been installed near the heating element. The T2 sensor **MUST**be disconnected from the circuit board. The T7 sensor should then be connected to where the T2 sensor was previously connected up.

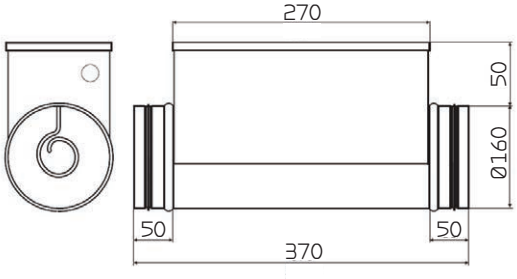


Wiring diagrams are supplied with the products.

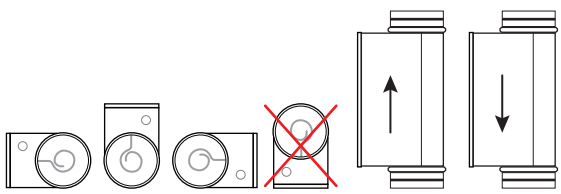
Run the wires along the duct and through the grommet on the unit down to the circuit board. Connect the wires in accordance with the wiring diagram.

ATTENTION
The heating element must be insulated with a fire retardant insulation material. The cover of the connection box, however, must not be insulated.

Dimensional drawing:



Positioning options:

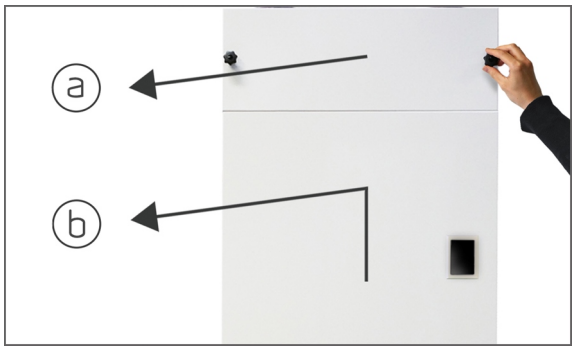


CO_2 sensor

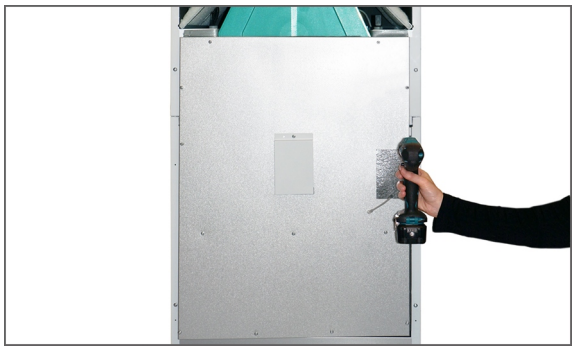
You can purchase a CO_2 sensor as an accessory if you want to control the fan speed level in accordance with the CO_2 level in the dwelling.

CAUTION
Always disconnect the power supply to the unit before opening its doors or working on its electrical installations.

CO_2 sensor in the unit as follows:



1. Demount the front panels.
a. loosen the thumb screws and remove the filter door.
b. lift up the large door and remove it. Detach the RJ plug from the control panel on the rear side of the large door.

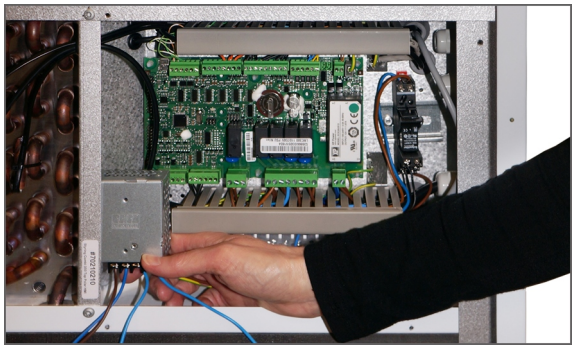


2. Remove the screws and demount the cover plate.

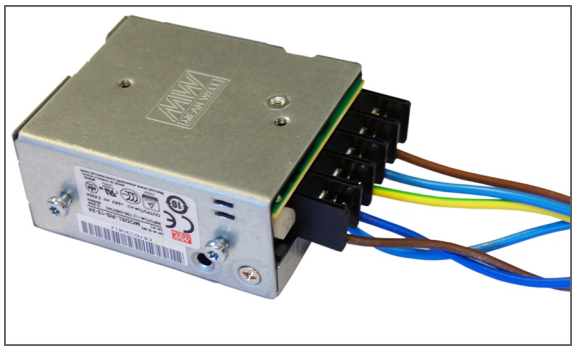
3. Pull out the T4 sensor from the counterflow heat exchanger.

4. Pull out the counterflow heat exchanger from the unit. Do not cut the strap.

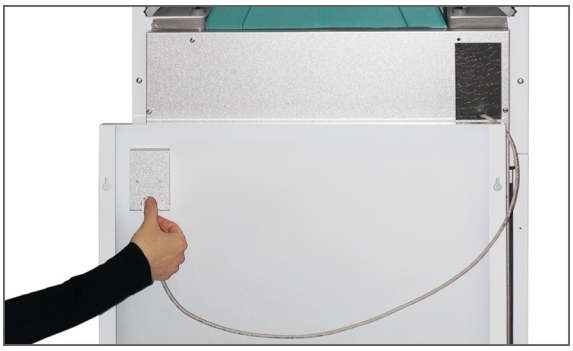
5. CO_2 sensor in the metal shelf under the extract air filter using the self-drilling screws (supplied with the CO_2 sensor kit).



6. Run the wire from the CO_2 sensor through the cable grommet to the automation.
Install the power supply box in the automation compartment in the unit (predrill holes for the two screws supplied).

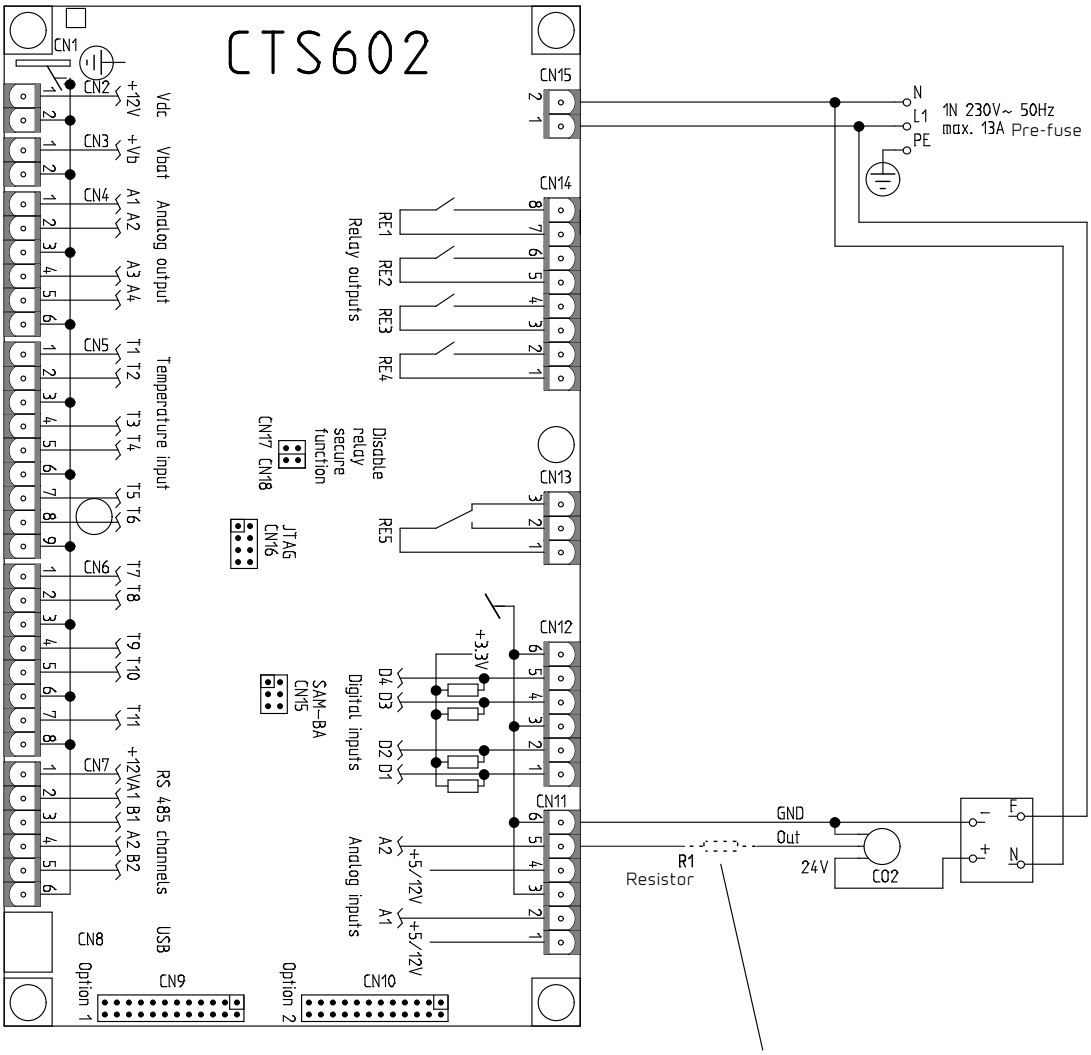


7. Connect it up in accordance with the wiring diagram. See below.



8. Reinstall the counterflow heat exchanger. Remember to reinstall the T4 sensor.
Remount the cover plate and then the front panels.
Remember to reconnect the RJ plug to the control panel.

Run the wire from the CO_2 sensor to the circuit board and connect it as shown below:



For Software version 2.00x and below, the resistor must be connected in series with a 680Ω resistor.
For Software version 2.01X and above, NO resistor should be installed.

Connecting expansion PCB

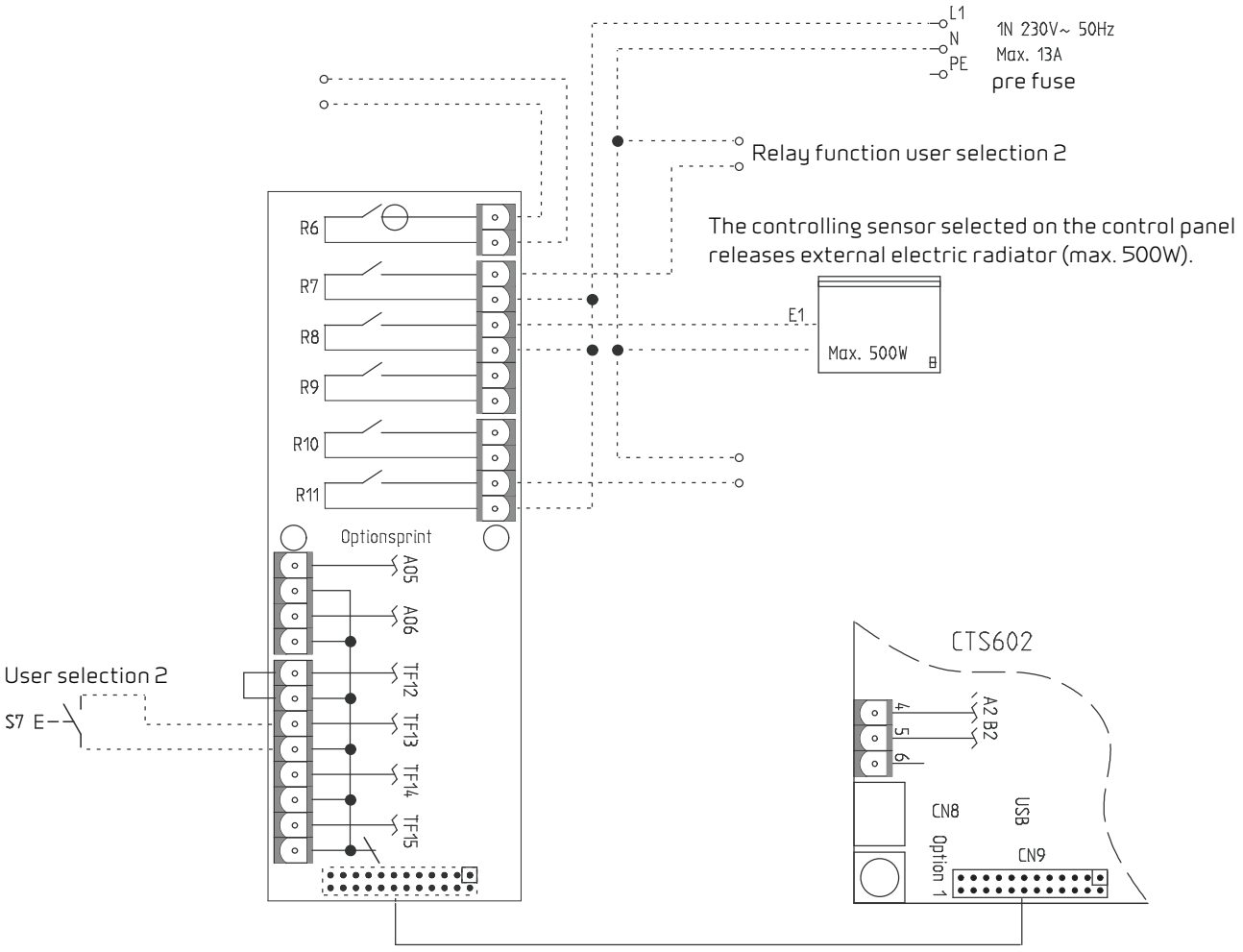
If you connect an expansion PCB to the CTS602 circuit board, you will be able to use user selection 2.

Similar to user selection 1, user selection 2 allows you to override the functions of the unit via an external signal from a potential free contact.

In addition, when activating user selection 2, the control system gives an output signal.

User selection 2 has a higher priority than user selection 1. It can be used in the same manner as user selection 1.

The expansion PCB also enables activation of external heating. It further includes an alarm output and a de-icing signal.



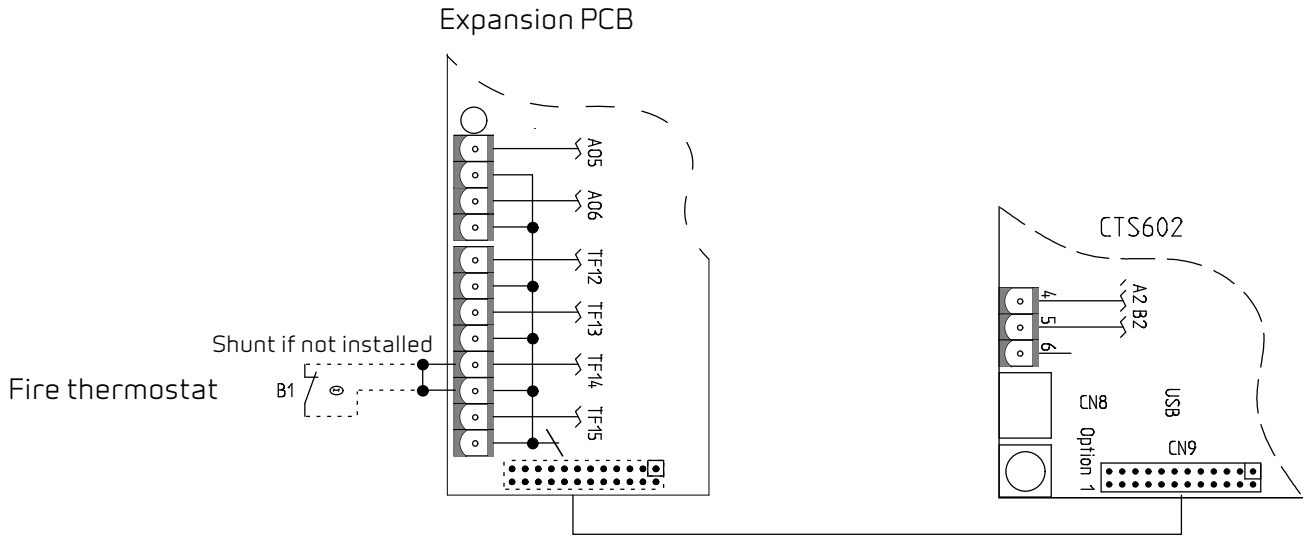
Plug the expansion PCB in the CN9 socket on the CTS602 circuit board.

ATTENTION
The expansion PCB and the connections must be installed by an authorised electrician.

The expansion PCB is an accessory to the CTS602 circuit board. Nilan does not supply external components.

Fire connection

You can connect a fire thermostat or an external fire automation system. It must be a closed signal, so that Compact S will register that there is a fire if the signal is interrupted.

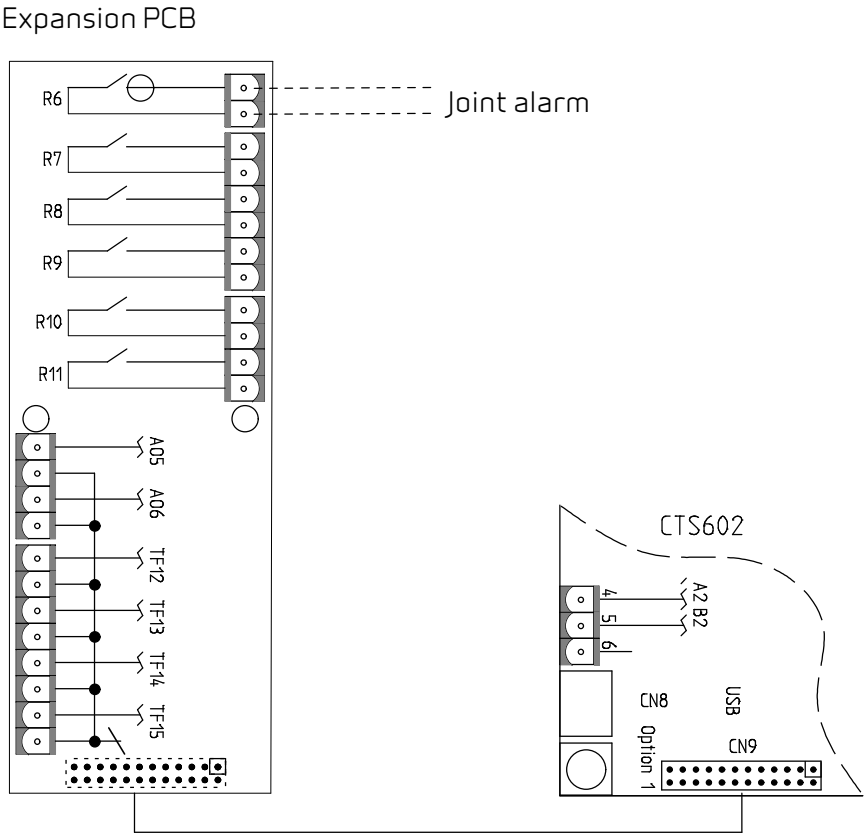


NB! If you connect the unit to an external fire automation system, set the software: General settings/ Service/Auto reset for external fire automation system to On.

Joint alarm

It may be difficult to notice alarms if the unit is located in a place where access is poor or infrequent, and if the control panel is located in the same place.

An external alarm in the form of, for instance, a light or an audible signal can be connected to the unit.

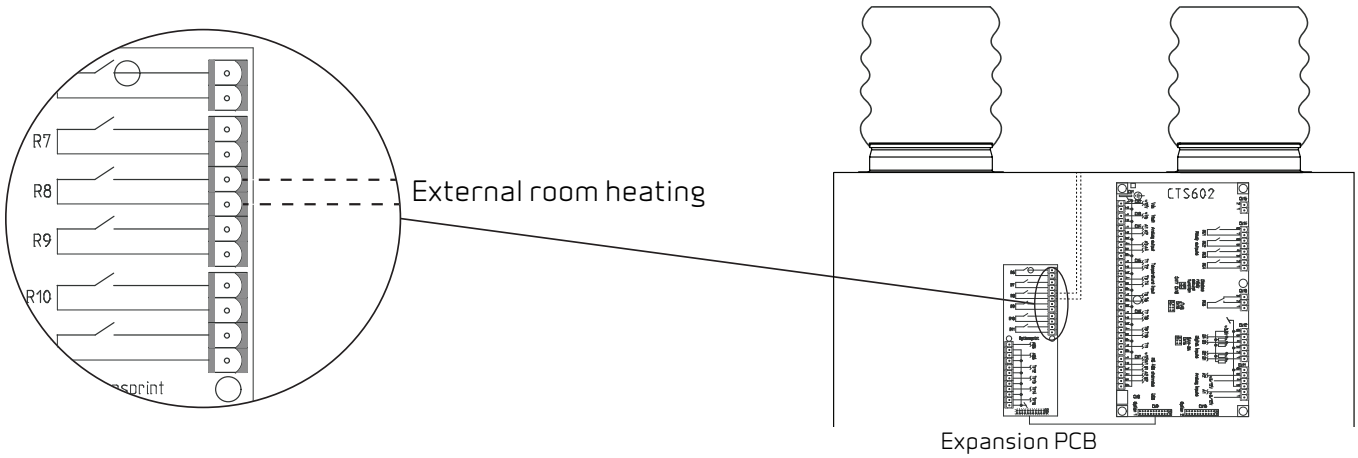


External heat supply

The unit can control an external heat supply, such as electric radiators or an underfloor heating system.

The unit monitors the room temperature and blocks the external heat supply when heating is not required. If, through ventilation alone, the unit is unable to heat the room to the desired temperature, the external heat supply will be released until the room temperature has reached the desired level.

Connect the external heat supply via relay 8 and set it in the display under menu option: Ventilation/ Temperature settings



A maximum effect of 500W can be connected (A Polar needs to have a transfer relay mounted).

Plumbing installation

Condensate drain

Important information

Compact S is supplied with a reinforced 20 mm condensation drain pipe with built-in water lock.

ATTENTION
The condensate drain should be installed with an even fall of at least 1 cm per m to the nearest drain. Similarly, the overflow from the safety valve must be led to a prominent drain.

ATTENTION
If the unit is assembled outside the climate screen, it is important to secure the condensate drain against icing. Frost protection of the unit is the installer's responsibility.

The connection of the water trap must be air-tight, otherwise air will be sucked into the unit and condensate will remain in the unit. It could cause water damage if the condensate tray overflows and condensate water runs out of the unit.

After mounting the water trap, its function is tested as follows: Fill the condensate tray with water and start the unit at the highest fan speed level. Allow it to run for several minutes. Check that there is no water in the condensate tray when the test is finished (the unit must be connected to the duct system and the lid must be closed during the test).

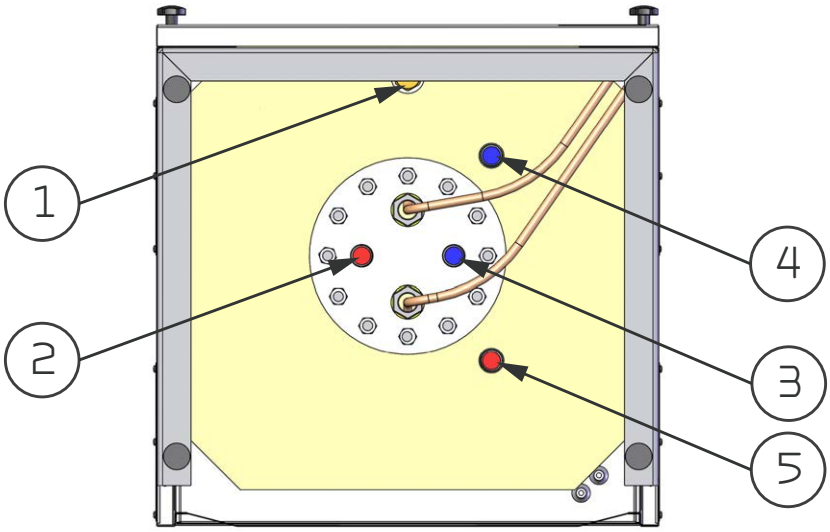
The water trap may dry out and prevent water from draining off the condensate tray, as air will then blow into the unit. The water trap should therefore be checked regularly, especially at the end of the summer, and it should be filled with water if necessary.

The water trap is integrated in the pipe running from the condensation tray to the drain.

Hot water tank

Connections overview

Compact S front



Compact S rear

Connections:

1. Connection for 3/4" circulation pipe
2. Hot water outlet 3/4"
3. Cold water intake 3/4"
4. Return supplementary coil 3/4"
5. Supply supplementary coil 3/4"

Supplementary coil is only standard on Compact S SOL models.

The supplementary heat coil is located at the base and has an external diameter of 22 mm and a length of 8500 mm, corresponding to 0.6 m^2.

Connection

ATTENTION
All work must be performed by qualified personnel and in accordance with relevant legislation and provisions.

Nilan's hot water tanks are double-enamelled, ensuring long life. The efficient foam insulation protects against unnecessary heat loss.

All connection nozzles for water have 3/4" thread and are located in the tank bottom.

The tank is also fitted with an electronically-monitored sacrificial anode that automatically displays a warning on the display when it needs changing.

CAUTION
Changing the anode when notified on the display is important. Failure to do so can cancel the guarantee on the hot water tank.

The tank is fitted with a 1.5 kW supplementary electrical heater deactivated by default and activated via the control panel if required.

ATTENTION
The supplementary heating must not be activated before the water tank is full of water.

Hot water circulation

If wished, hot water circulation can be established by fitting a non-return valve and a circulation pump for domestic water to the tank's circulation connector.

If hot water circulation is not established, the connector must remain closed with the factory-mounted shut-off plug.

ATTENTION
Hot water circulation can lead to a significant heat loss in the pipes, diverting a good proportion of the heat pump's output. To avoid this, circulation pipes and the hot water loop must be insulated with at least 30 mm mineral wool.

It is advisable to set a timer so that the circulation pump is not running constantly.

Solar coil

All Compact SOL models have integral supplementary coil, see connections list.

The solar coil with a surface area of 0.6 m^2 is intended for solar heating systems, though it can also be connected to other heat sources.

ATTENTION
If a solar collector or other heat source is connected to a Compact P model, it is recommended that a safety group is connected to the hot water outlet to secure against scalding.

Softened water

If it is wished to soften water with salt in a Nilan hot water tank, the following must be observed:

- The conductivity must be between 30 mS/m og 150 mS/m (millisiemens per m)
- The chlorine content must be under 250 mg Cl/l

If the above criteria are exceeded, the anode current will be too high, the anode will break down too quickly and the water will begin to smell bad.

CAUTION
De-mineralised water (double ion exchange) must not be used, as the tank will quickly corrode. De-mineralised is also referred to as desalinated and de-ionised water.

Plumbing connections for accessories

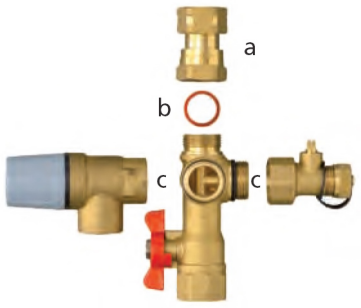
Safety group

CAUTION
A safety device must be connected to the hot water tank.

When water is heated to 60 °C, it expands by 2%. A pressure tank could burst without a safety valve keeping excess water out. The safety valve should therefore drip during warming up.

Installation:

The following should be remembered during installation:
a.
The double nut is attached to the water heater's cold water pipe so that the arrows are pointing in towards the water heater (in the direction of the flow). The joint with the water heater is sealed using a threaded washer.
b.
The joint between the double nut and the unit is sealed using fibre packing.
c.
The rubber ring seal (the O-ring) is fitted to the unit so that it can function as a seal between the safety valve and the unit in such a way that the valve is locked.



The end of the overflow pipe must be visible, and it must be able to run out safely via the drain.

ATTENTION
As water expands as it heats up, the safety valve will drip.

ATTENTION
It is up to the installation engineer to tell the customer where the safety valve is and how it works, and also that it must be regularly checked at least twice a year in order to prevent incrustation.

Safety group with anti-scald protection

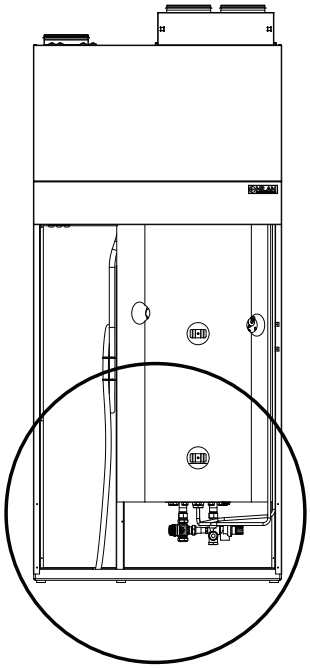
The control system contains as standard a temperature limit for domestic hot water of 65 °C. This setting prevents users from scalding themselves when the hot tap is turned on.

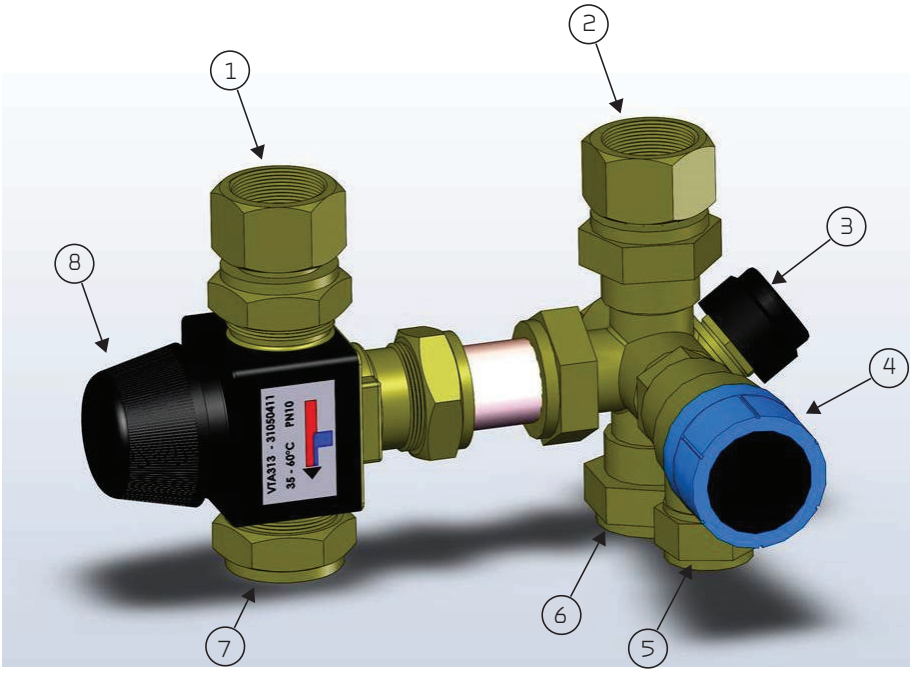
It also means that when Compact P is in cooling mode, cooling will stop when the domestic hot water reaches a temperature of 65 °C.

If the cooling requirement is higher than this, the temperature limit may be raised to 80 °C, but in this case an anti-scald device must be mounted under the hot water tank, to prevent users from scalding themselves when turning on the hot tap.

The anti-scald device mixes hot water with cold water, thus bringing down the temperature and avoiding scalding. This will extend the period for which Compact can perform cooling.

CAUTION
If a solar panel is connected to the hot water tank, an anti-scald device must be mounted.





1. Hot water from the hot water tank
2. Cold water to the hot water tank
3. Stop tap cold water
4. Pressure relief valve (6 bar or 10 bar)
5. The overflows from the safety valve are led to a prominent drain
6. Cold water supply
7. Domestic hot water for the dwelling
8. Mixing valve for domestic hot water for the dwelling (can be set between 35 - 60 °C)

Ventilation installation

Duct system

Legislation

ATTENTION
All work must be carried out by qualified persons and in compliance with existing legislation and regulations.

Ducts

There are two systems by which to lead air through the house.

Spiral ducts

The spiral ducts are made from metal and are cut to size using an angle grinder. They are then connected using bends and manifolds and are fitted in accordance with the blueprint. The ducts are typically laid on the tie beams and are fixed with perforated band or they are suspended using suspension band. Avoid unnecessary bending of the ducts.

To prevent sound from being transmitted from room to room, you should install silencers for each room.

The ducts must be insulated to prevent heat loss and condensation. In some cases this can be avoided if the ducts are run through the general insulation or inside the climate screen.

NilAIR tubes

NilAIR tubes constitute a flexible system that is easy to install. You can easily cut the tubes to size with a Stanley knife and then situate them in accordance with the blueprint without having to use bends and manifolds. You install a manifold box after the unit and let the tubes run from the box out to the individual rooms.

With NilAIR tubes you do not need to install silencers for every room, as there is no risk of sound transmission.

If you lead the tubes outside the climate screen, they must be insulated to avoid heat loss and condensation. This is simpler than using spiral ducts, as NilAIR tubes are easily led through ordinary insulation.

NilAIR tubes are more flexible than spiral ducts and you can therefore run the tubes in places that are unsuitable for ordinary spiral ducts.

Unit

Nilan recommends that you install a flexible connection between the unit and the duct system.

This is to avoid vibrations from the unit being transmitted to the duct system, but also to lighten future services of the unit that will make it necessary to move the unit.

Nilan offers flexible Sound Flex tubes that provide a flexible connection between the unit and the duct system, but also reduce the sound transmission from the unit to the duct system.

The Sound Flex tubes are insulated against condensation. It may, however, be necessary with further insulation in order to comply with local requirements to insulation of duct systems.

Extract air

Install exhaust air valves in rooms that generate humidity. Place them strategically where they can extract humidity most effectively.

Rooms that generate humidity:

- Bathroom
- Lavatory
- Kitchen
- Utility room

Supply air

Install supply air valves in living areas. Place them strategically so they cause minimum discomfort. It is, for instance, not recommended that you install supply air valves in areas where people are inactive, as the supply air may be experienced as draughty.

Living areas:

- Sitting room
- Living room
- Bedroom
- Home-office

Roof stacks

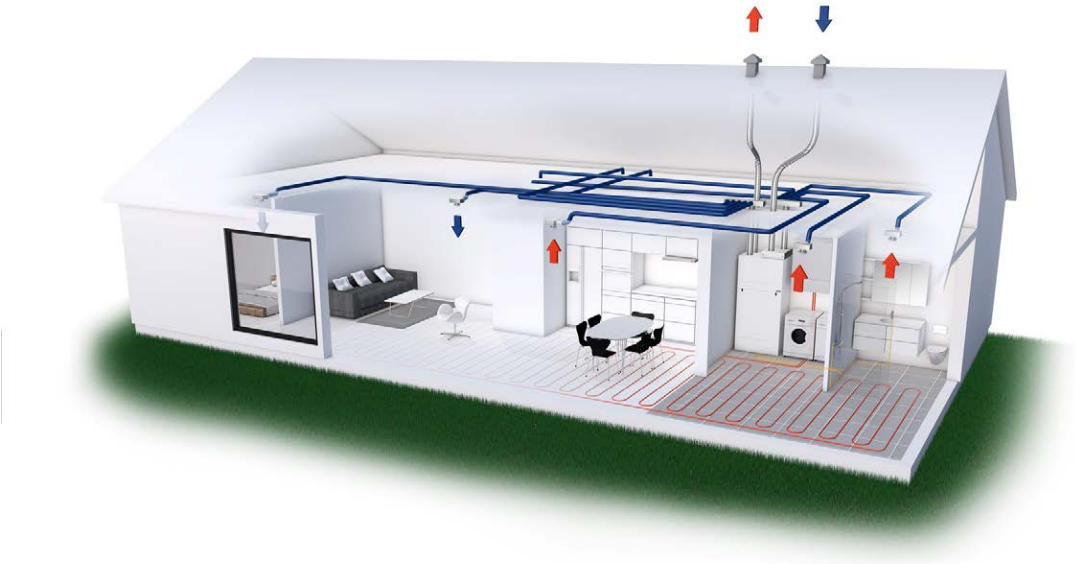
The position and design of air intake and air discharge should limit pressure oscillations in the ventilation unit caused by wind. Their position should also prevent birds and other animals from getting in. Finally, the position and design should ensure that air intake and the connected duct system are kept free of plants and foreign objects.

You must place the air intake so that the risk of a short-circuit from the discharge air is minimized, with attention to the prevailing wind direction.

The air intake should be placed at least 0.5 m from the roof surface. On black, flat roofs the distance from the roof to the underside of the intake should be at least 1 m to ensure that warm air is not drawn into the building in the summer. Air intakes should be located on the northern or eastern sides of pitched roofs.

You should also install a silencer between the unit and the roof stacks to prevent noise from disturbing your surroundings.

Installation example



Regulation

Important information

ATTENTION
To ensure the ventilation system operates optimally, it is important that it is balanced correctly. We recommend that experts do this.

It is important to measure the total supply air and the total extract air. The system must have a minimum vacuum, which means it must draw out more air than it blows in. This will prevent dampness from being forced into the construction of the building.

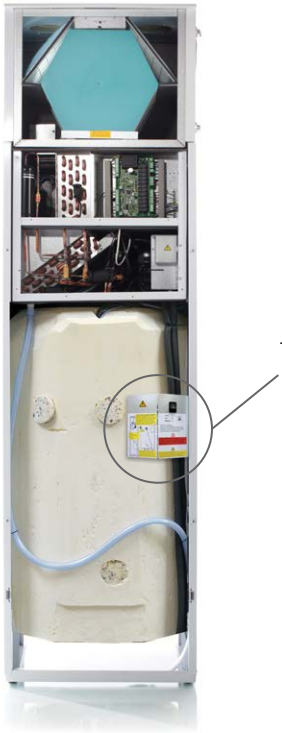
Troubleshooting

Emergency operation

Emergency operation domestic hot water

If a error occurs in the controller or components in the Compact S, and the unit therefore stops, it will not be able to produce domestic hot water.

If the installer is not able to come right away or the error happens outside the opening hours, and you therefor cannot contact the installer, there is a possibility to get hot water by setting the unit to emergency mode.



The button for the emergency operation are located behind the large door

The emergency operation has tree settings:

I - Auto: El-supplementation is controlled by the control in the unit (standard setting)

0 - Off:: El-supplementation is off and cannot by turned on by the control in the unit

II: Manual: El-supplementation is turned on, and cannot be turned off by the control in the unit (Don´t turn it on if there is no water in the tank)

CAUTION
In manual operation, the water temperature can achieve 75 °C, which can cause scalding, if you are not careful when you open the hot water.

Domestic hot water

Errors and solutions domestic hot water

Problem	Possible cause	Solution
The unit produces insufficient domestic hot water	The filters may be blocked so that insufficient air is reaching the unit. This can occur if the filters are not changed frequently enough. This can occur if the unit has been operated during the building process and the filters are filled with dust and dirt.	Change the filters and, if necessary, change the filter change period to a shorter Interval:

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