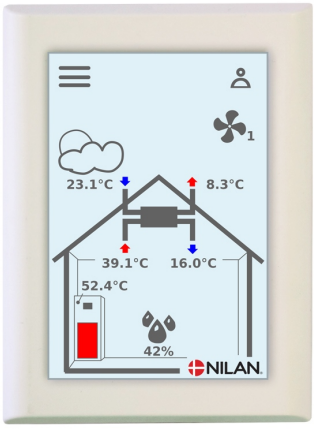
USER MANUAL

CTS602 HMI BY NILAN



Compact S / Compact S Polar (English)

Version 3.00 - 01.10.2019

NILAN®
OUTSTANDING INDOOR CLIMATE

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Safety

Important information

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

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.

Type plate

On the inside, in the bottom right of the unit is Nilan's nameplate.

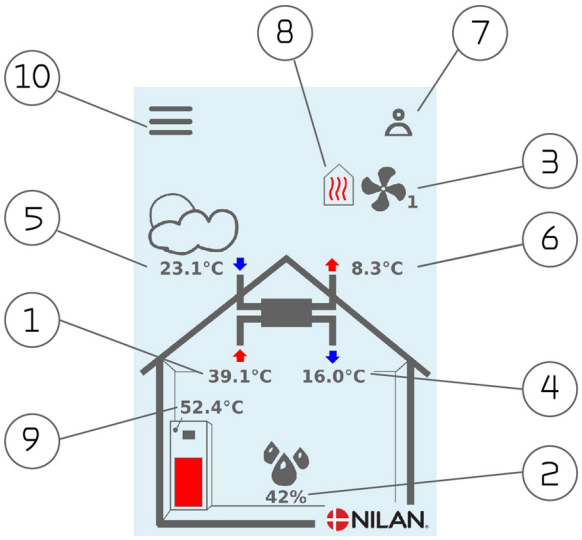
Note: Contact Nilan a/s with questions about the product, it is important to have the unit name and serial No. (SN) ready. On the basis of this information, please contact service department find all informations about the relevant aggregate and thus provide information and answer questions about what the aggregate consists of/contains, as well as the software used.

Quick guide

Control panel functions

Main screen elements

The main screen of the HMI panel contains the settings options and the information that an operator mostly uses.



1. Shows the current room temperature in the house, measured via the extract air.
2. Shows the current air humidity. If a CO_2 meter has been installed, it will be shown next to air humidity.
3. Shows the current fan speed level.
4. Shows the current supply air temperature
5. Shows the current outdoor temperature measured via the outdoor air intake
6. Shows the current discharge air temperature
7. Shows the menu icons listed below
8. Shows the mode icons listed below
9. Show hot water temperature
10. Access to the settings menu which contains more settings options

Menu icons

Stop icon
Indicates that the unit has stopped

User selection icon
Indicates that the user selection function is active

Week program icon
Indicates that the week program function is active

Alarm icon
Is displayed during alarms or warnings

Mode icons

Compressor icon
Indicates that the compressor is active

Heating icon
Indicates that the unit is heating up the supply air via the compressor or the after-heating element

Cooling icon
Indicates that the unit is cooling the supply air via the compressor or the bypass

Domestic hot water icon
Appears when the unit produces hot water. Lightning is displayed when the power supply is active.

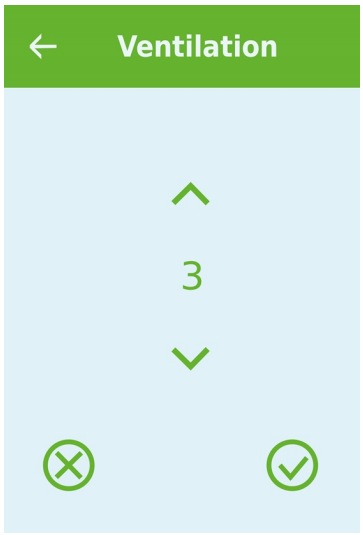
De-icing ikon
Appears when the heat pump defrosts

Settings options on the main screen

The settings options which the user needs in daily life can all be controlled from the main screen of the panel.

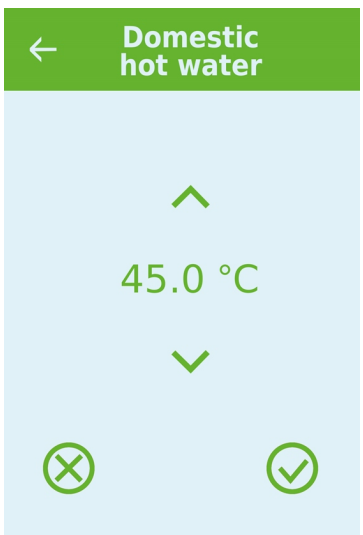
If you select the option of current room temperature, the desired room temperature will be displayed.

The desired room temperature can be adjusted by pressing the up-or-down arrows followed by the cancel icon (bottom left) or the accept icon (bottom right).



If you select the option of current fan speed level, the desired fan speed level will be displayed.

The desired fan speed level can be adjusted by pressing the up-or-down arrows followed by the cancel icon (bottom left) or the accept icon (bottom right).

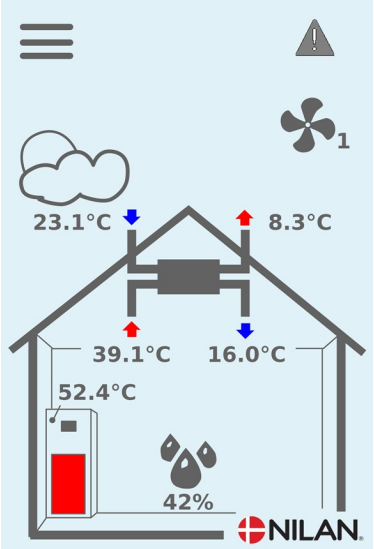


By pressing the current hot water temperature the desired hot water temperature is displayed.

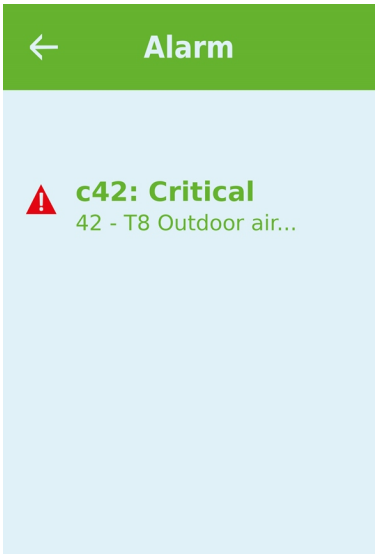
The desired hot water temperature can be adjusted by pressing the up-or-down arrows followed by the cancel icon (bottom left) or the accept icon (bottom right).

Warnings and alarms

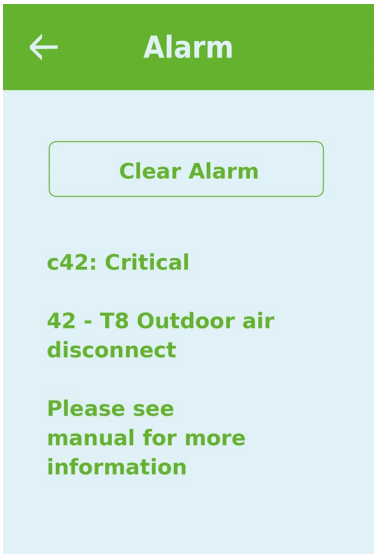
Should an error occur in the operation of the unit, a warning or an alarm will be displayed. A warning will appear in the top righthand corner in the menu bar.



If you press the symbol, a description of the warning or the alarm will be displayed.



The warning or the alarm can be reset by pressing "Clear Alarm".

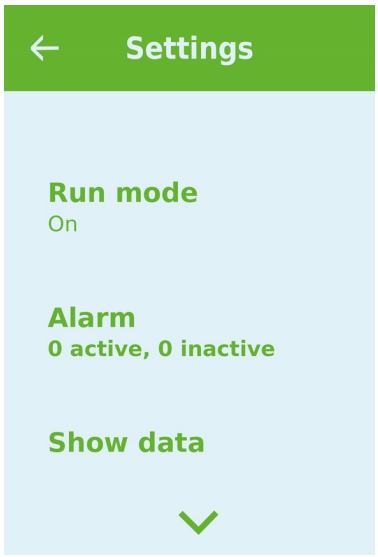


A warning indicates that something requires attention, for instance that filters need changing.
The unit operates normally.

An alarm indicates a serious fault with the unit that is likely to require investigation by an expert.
The unit has stopped.

Settings menu overview

The settings menu is constructed to make it easy to navigate through.



Service and maintenance

Maintenance

Regular maintenance

Your Nilan ventilation unit will last for many years if it is correctly maintained. Correct maintenance will also ensure that the unit runs optimally at all times with low energy consumption.

In the following we point out the regular maintenance which you can perform yourself and the annual service which should be carried out by a professional.

External cleaning

The ventilation unit

The outside of the unit can be cleaned with a mild soap solution.

The ceiling valves

Over time a ring may develop round the inlet valves. This is a natural process and is due to dust in the room air, not to defective filters or failure to change filters.

As very few painted ceilings are washable, you are recommended to vacuum round the valve and then wipe the area with a damp cloth.

It is a good idea to dismantle and clean the valves when necessary. The valves have been set by the installer for a specific airflow, so it is important not to rotate them, as this will change the setting and unbalance the ventilation system.

Water trap

If the water trap in the condensate outlet dries out, air will blow into the unit. This will prevent the condensate water from draining away. Instead it will accumulate in the condensate tray. When there is no space left in the condensate tray, it will spill over, possibly causing water damage on the floor.

ATTENTION
The water trap must be checked at regular intervals and filled with water. This is done by filling the condensate tray with water and checking that it runs out.

Changing the filters.

The filters are there to protect the fans and heat exchanger by preventing them from being coated by dust and dirt.

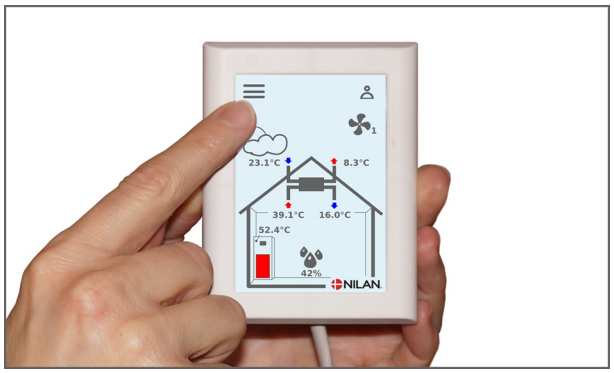
For optimum operation it is important to change the filters before they become clogged. In normal operation, G4 filters from Nilan should be changed every three months. In newbuild, it is recommended that the filters are changed when the house is first occupied, as they may be clogged with building dust.

If the filters are not changed regularly, this will hamper ventilation, reducing the indoor air quality, using more power than necessary, and producing insufficient domestic hot water.

The exchanger

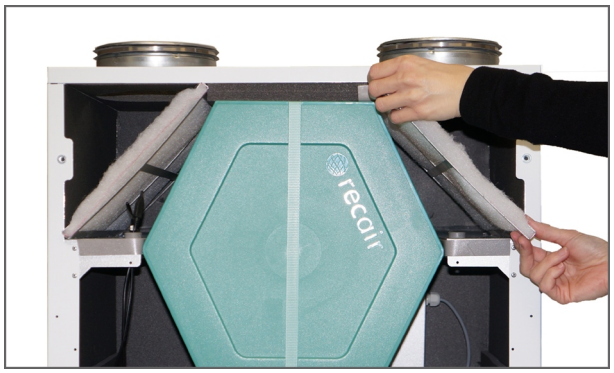
The exchanger should be checked for dust and dirt every two years to ensure that air can pass through unhindered. A blocked exchanger will increase power consumption.

Illustration of filter change



1. Switch off the unit on the control panel before opening the door.

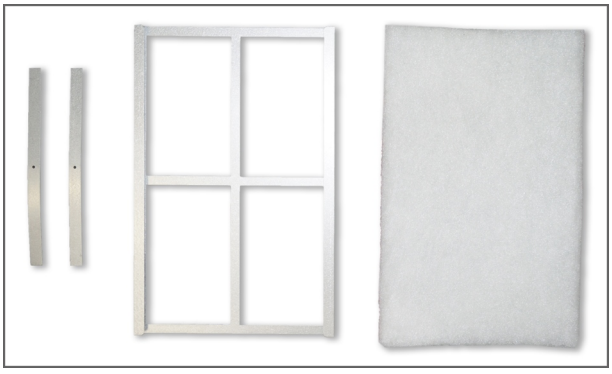
2. Turn the thumb screws in the door at the top right of the unit and open the door.



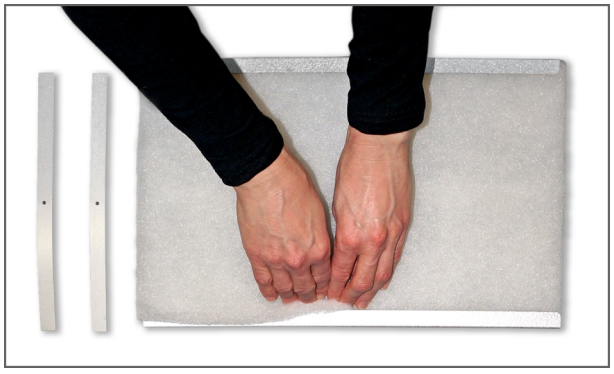
3. Remove the two filters from the unit

4. It is advisable that you vacuum the filter chambers for potential dirt and dust

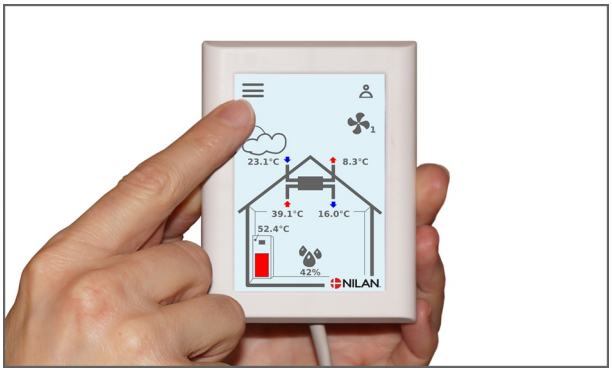
5. Remove the filter sheet from the filter frame



6. Keeping the smooth side facing downwards, place the new filter sheet in the filter frame



7. Press the filter sheet firmly in place and carefully push it to the sides of the filter frame. The filter is placed back in the unit with filter mat upward



8. In the ALARM menu on the control panel, press the alarm symbol at the top right and reset the alarm here.

Service

Annual service

It is important to perform an annual service on the unit to ensure it will continue to perform optimally with low energy consumption and long service life.

You are recommended to take out a service agreement with the installer, as certain elements of the service require an authorised technician.

Visual inspection

You are recommended to carry out a visual inspection of the whole unit.

Check that there are no sweating pipes to cause condensation and damage the substrate on which the unit stands.

Check that there are no cracks in hoses and pipes and no leaks in the heat pump and hot water tank.

Check that there are no damaging accumulations of dirt in the unit.

Checking the sacrificial anode

An electrically monitored anode has been mounted for protecting the hot water tank. When it is time to change the anode, a warning will appear on the control panel display.

Check the sacrificial anode to ensure that the electrical monitoring is undamaged.

Checking the safety valve

The safety valve for the domestic hot water should have an annual function check to ensure it is functional at all times.

The function check must be carried out by a trained plumber.

Internal cleaning

For hygienic reasons, it is important that the unit undergoes annual internal cleaning. This will prevent the formation of fungus and bacteria which impair the internal air quality.

- Wipe down the internal plate parts and pipes with a damp cloth and a mild soap solution.
- Check and clean the evaporator coil.
- Check and clean the counterflow heat exchanger. If necessary, it may be removed and rinsed with a shower head.
- Clean the condensate trays with a damp cloth and a mild soap solution.
- Check the condensate outlet to make sure the water can exit freely.

Check the air intake and outlet

It is important for operation of the unit that air can freely move through the air intake and outlet.

If roof stacks have been fitted to the air intake and outlet, check that they are not blocked with birds' nests, leaves or other dirt which can hamper air passage.

If, instead of roof stacks, grilles have been mounted in facades or eaves, check that they are not clogged with leaves or dirt. Grilles are particularly likely to become clogged.

Check ventilation ducts

It is important for operation of the unit that there is free air passage through the ventilation ducts.

After some years of operation, dirt will attach itself to ventilation ducts or tubes, and accumulations may lead to higher pressure drop in the ducts, leading to higher power consumption. It is therefore important to clean out the ducts when too much dirt has collected.

After attending to the inlet and outlet valves, it will be advisable to have them adjusted again, to ensure optimum operation of the ventilation system.

However, it will not be necessary to clean ducts more than every few years.

The heat pump

The heat pump must be inspected in accordance with applicable laws and regulations, such that it is kept in good condition and meets safety and environmental requirements.

The installer is obliged to inform the owner/user about applicable laws and regulations.

Ventilation settings

Stop the unit

If it is necessary to open the doors while servicing the unit, for instance when changing filters, the unit must be turned off.

The functions of the unit are activated in Settings under Operation.

If the unit is off, an icon appears on the main screen. 

↳ Operation	Settings: Description:	Off / On The unit must be turned off before the doors are opened during a service

Operating function

You can program the unit to operate in "Auto", "Heating" or "Cooling" mode.

ATTENTION
The "Heating" and "Cooling" functions overrule the week program. If a week program has been set up, the mode will automatically change to "Auto" at the next change in the week program.

← Operating function

↳ Auto	Settings: Standard setting: Description:	Auto / Cooling / Heating Auto Auto: The unit operates in accordance with the selected values Cooling: The unit operates in accordance with the selected values, but cooling is possible in winter mode if the preconditions for cooling are present. Heating: The unit operates in accordance with the selected values, but the bypass damper cannot be opened and active cooling not be activated even if the preconditions are present.

Alarm

You can read warnings and alarms in the "Alarm" menu. It is likewise possible to reset warnings and alarms in this menu.

When a warning or an alarm has been triggered, an icon appears on the main screen 

↳ Alarm number and name	Description:	When selecting this, a list will appear showing the alarm ID number, information about the type of alarm, and whether it is critical or not. (See the alarm list for more information) You can approve the alarm by selecting "Clear Alarm"

ATTENTION

When an alarm is active, it cannot be reset in the panel. When the alarm has been resolved, it will figure as inactive and it can be reset by selecting "Clear Alarm".

Show data

It is possible to read off current data for Compact units.

← Show data

↳ Operating state	Description:	Shows the operating setting in which the unit is running.
↳ Bypass	Description:	Shows whether the bypass damper is open or closed.
↳ T1 Outdoor air	Description:	Shows the outdoor temperature before reaching the pre-heating element.
↳ T2 Supply air	Description:	Shows the supply air temperature. If an after-heating element has been installed, T7 will be shown instead.
↳ T4 Discharge	Description:	Shows the discharge air temperature.
↳ T5 Condenser	Description:	Shows the condenser temperature.
↳ T6 Evaporator	Description:	Shows the evaporator temperature.
↳ T7 Supply air	Description:	Shows the supply air temperature if an after-heating element has been installed. Otherwise T2 will be shown.
↳ T10 Extract air/Room	Description:	Shows the current room temperature as measured in the extract air.
↳ T11 Top hot water	Description:	Shows the current temperature in the top of the domestic hot water tank Control the supplementary electric heating
↳ T12 Bottom hot water	Description:	Shows the current temperature in the bottom of the domestic hot water tank Controls the compressor
↳ Air humidity	Description:	Shows the current air humidity in the dwelling.
↳ CO2	Description:	Shows the current CO_2 level in the dwelling (only if installed).
↳ Supply air fan	Description:	Shows the level at which the supply air fan is operating.
↳ Extract air fan	Description:	Shows the level at which the extract air fan is operating.
↳ Unit information	Description:	Press "Unit information" for more information.
↳ Unit type	Description:	Shows the name of the product the software has been set to work with.
↳ Software version	Description:	Shows the installed software version.
↳ Panel software	Description:	Shows the installed software version on the panel.

Date/Time

It is important to set date and time correctly. It makes it easier to localise errors indicated in an error report. When logging data, it is important to be able to follow the history. The time is shown under "Date / Time" in the display.

↳ Year	Description:	Select "Year" in the panel and then select the correct year.
↳ Month	Description:	Select "Month" in the panel and then select the correct month.
↳ Day	Description:	Select "Day" in the panel and then select the correct day.
↳ Hour	Description:	Select "Hour" in the panel and then select the correct hour.
↳ Minute	Description:	Select "Minute" in the panel and then select the correct amount of minutes.

Week program

You can program the unit to run in accordance with specific settings at fixed times during the week via a week program.

On the main screen an icon will be displayed when the week program is active 

← Week program

↳ Select program	Description:	You can select from the Programs 1, 2, 3 or off.
↳ Edit program	Description:	The selected week program is now active and can be edited.
↳ Monday	Description:	You can select either Monday, Tuesday, Wednesday, Thursday, Friday, Saturday or Sunday.
↳ Function 1	Description:	Under each function, you can set time, temperature and fan speed level.
↳ Start time	Settings: Standard setting: Description:	Hours and minutes 6:00 Set the time for the program to start. The program will run until the next change in the week program.
↳ Ventilation	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 3 Select the desired fan speed level here.
↳ Temperatures	Settings: Standard setting: Description:	5 - 40 °C 22 °C Set the desired room temperature here.
↳ Function 2		Under each function, you can set time, temperature and fan speed level.
↳ Start time	Settings: Standard setting: Description:	Hours and minutes 8:00 Set the time for the program to start. The program will run until the next change in the week program.
↳ Ventilation	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 1 Select the desired fan speed level here.
↳ Temperatures	Settings: Standard setting: Description:	5 - 40 °C 22 °C Set the desired room temperature here.
↳ Function 3	Description:	Under each function, you can set time, temperature and fan speed level.
↳ Start time	Settings: Standard setting: Description:	Hours and minutes 15:00 Set the time for the program to start. The program will run until the next change in the week program.
↳ Ventilation	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 3 Select the desired fan speed level here.
↳ Temperatures	Settings: Standard setting: Description:	5 - 40 °C 22 °C Set the desired room temperature here.
↳ Function 4	Description:	Under each function, you can set time, temperature and fan speed level.

↳ Start time	Settings: Standard setting: Description:	Hours and minutes 22:00 Set the time for the program to start. The program will run until the next change in the week program.
↳ Ventilation	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 1 Select the desired fan speed level here.
↳ Temperatures	Settings: Standard setting: Description:	5 - 40 °C 22 °C Set the desired room temperature here.
↳ Functions 5 and 6	Settings: Standard setting: Description:	Under each function, you can set time, temperature and fan speed level. Off The program will run until the next change in the week program.
↳ Reset program	Description:	You can reset the program by selecting the approve icon.

Heating of supply air

If an after-heating element has been installed (accessory), you set the supply air to be heated here.

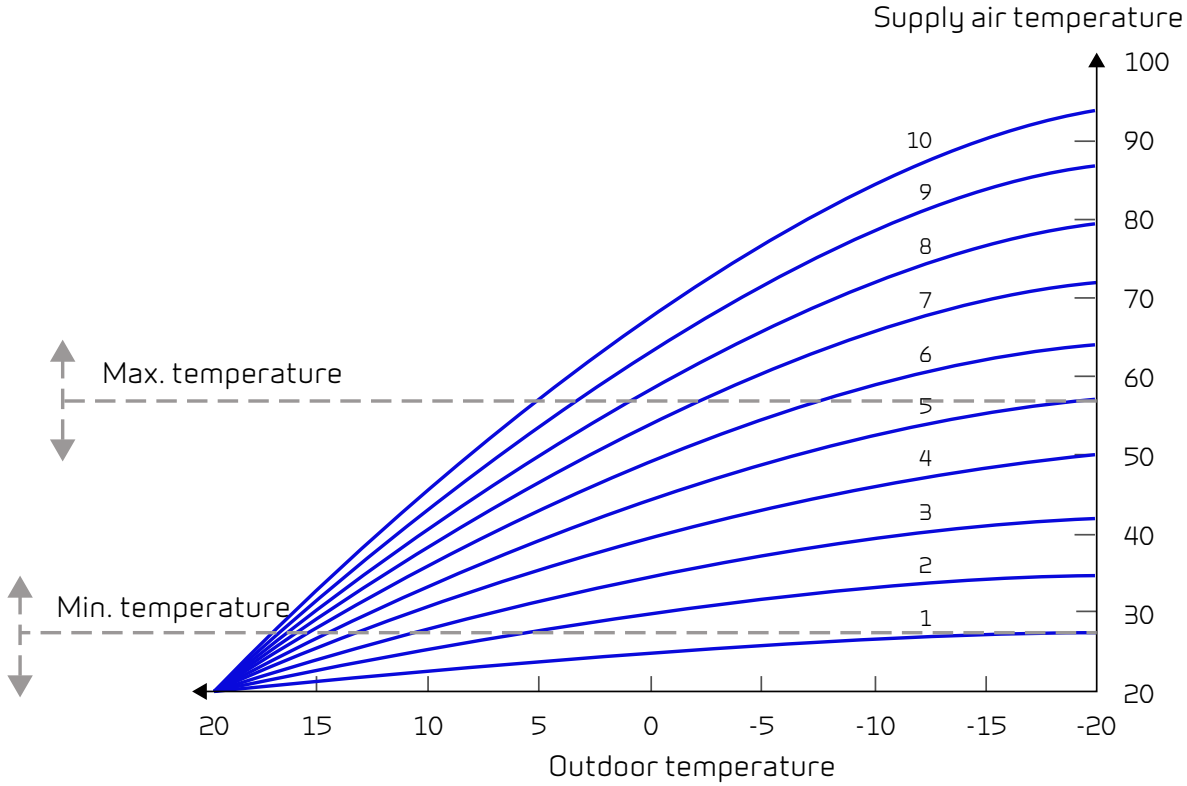
When the room temperature (measured in the extract air) falls below the desired room temperature set on the display, the heat pump and the after-heating element start heating the supply air.

← Supply air heating

↳ Setting	Settings: Standard setting: Description:	Off / Heating / Requirement Requirement Off: The supply air is not heated. Heating: Constant heating in relation to min./max. Requirement: The supply air temperature is regulated automatically by the curve setting
↳ Heating	Description:	Constant heating of the supply air via PI-regulation in accordance with the room temperature
↳ Minimum supply air temperature	Settings: Standard setting: Description:	5 - 40 °C 20 °C Minimum supply air temperature
↳ Maximum supply air temperature	Settings: Standard setting: Description:	20 - 50 °C 40 °C Maximum supply air temperature
↳ Requirement:	Description:	Heating of the supply air is curve controlled. The supply air is controlled by the outdoor temperature and not by the current room temperature.
↳ Minimum supply air temperature	Settings: Standard setting: Description:	5 - 40 °C 20 °C The minimum supply air temperature overrules the curve control
↳ Maximum supply air temperature	Settings: Standard setting: Description:	20 - 50 °C 40 °C The maximum supply air temperature overrules the curve control
↳ Outdoor temperature compensation	Settings: Standard setting: Description:	0 - 10 10 Choose which curve the control system is to be regulated by
↳ Offset curve	Settings: Standard setting: Description:	-15 - 10 °C 0 °C You can shift the curve to make it fit the heating requirements of the dwelling
↳ Delay	Settings: Standard setting: Description:	0 - 30 minutes 10 minutes Set a chosen delay for when the after-heating element should start, once a need for heating has been established.

The heating curves

The outdoor temperature controls the supply air temperature.



Domestic hot water

Settings for hot water production have been set at the factory, but it may be necessary to adjust them to match the user´s needs.

← Domestic hot water

↳ Electric supplement heater hot water	Settings: Standard setting: Description:	Off / 5 - 85 °C 30 °C Off: The electricity supplement is de-activated by the user 5 - 85 °C Indicates below which temperature (T11) the electricity supplement should help by heating the hot water.
↳ Hot water temperature	Settings: Standard setting: Description:	Off / 5 - 60 °C 45 °C Off: The hot water production is switched off by the user 5 - 60 °C Indicates below which temperature (T12) the compressor must produce hot water.
Anti-scald device:	Settings: Standard setting: Description:	60 - 80 °C 65 °C When the unit is in heating or cooling mode, heat will simultaneously be deposited in the hot water tank. To prevent the hot water from getting too hot and rinsing the user, a limit of 65°C has been inserted. When the temperature in the hot water tank reaches 65 ° C, cooling or heating the supply air stops. NB! If a scalding valve is connected to the bottom of the hot water tank, the setting can be changed up to 80°C. In this way, the capacity for cooling and heating of the supply air is increased.

Cooling

The unit can cool the dwelling via bypass-cooling and/or active cooling via the heat pump. For the unit to switch to cooling mode it must operate in summer mode, or you must activate cooling in "Operating function".

Bypass cooling:

If the room temperature, measured in the extract air, is higher than the cooling setpoint -2 °C and the outdoor temperature is below the room temperature, the bypass will open and commence bypass cooling.

The bypass will close again once the room temperature reaches the desired level + 1°C

If the outdoor temperature exceeds the room temperature and cooling becomes necessary, the bypass will not open. However, the unit will start cooling recovery via the heat exchanger where the outdoor air is cooled by the extract air.

Active cooling:

If the room temperature (measured in the extract air) is higher than the desired room temperature + the cooling setpoint, the compressor will start up and begin active cooling of the supply air. The compressor will stop when the room temperature falls below the cooling setpoint -1°C.

↳ Cooling setpoint	Settings: Standard setting: Description:	Off / +1 / +2 / +3 / +4 / +5 / +7 / +10 °C Off Off: Active cooling is deactivated. Setpoint + X °C: Indicates when active cooling is to start. The setpoint is the desired room temperature as selected on the front of the panel.
↳ Ventilation in connection with cooling	Settings: Standard setting: Description:	Off / 2 / 3 / 4 Off Off: The fan speed level does not change when the unit switches to cooling mode. Level 2-4: Select the fan speed level you want the unit to switch to when in cooling mode. This happens already at bypass cooling.
↳ Priority	Settings: Standard setting: Description:	Water / Supply air Water This indicates whether the cooling function is to have a higher priority than production of domestic hot water*.

*When domestic hot water is needed, the heat pump will run at a higher level, and cannot simultaneously perform active cooling during that period. However, it will open the bypass damper if cooling is required.

If cooling is to have a higher priority than hot water, the unit will cool the supply air and store the heat in the hot water tank during that period. The domestic hot water will be heated, but not as quickly as usual in hot water production.

Air humidity

The primary purpose of ventilation is to extract humidity from the house so it does not damage the building, and to achieve a good indoor climate. During long periods with sub-zero temperatures, air humidity in the house may fall to a level that is critical for the building and for the indoor climate. Wooden floors, furniture and walls can be damaged by very dry air, which also whirls up dust, resulting in a poor indoor climate.

This is rectified by an integrated humidity control system that maintains good, relative air humidity. When the average air humidity in the house falls below a set level (default set at 30%), ventilation may be reduced. It will typically only be for a short period of time. This will help avoid further reduction of the air humidity in the house.

The humidity control system also has a function that allows increased ventilation, should the air humidity increase, for instance when having a bath. The risk of mould growth in the bathroom is reduced, and the bathroom mirror will rarely steam up.

The humidity control system follows the average air humidity level measured over the previous 24 hours. In this way the system automatically adapts to summer and winter conditions.

← Air humidity

↳ Vent.low humidity	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Level 4 / Off Level 1 At low humidity, the unit changes to the set fan speed level.
↳ Low humidity level	Settings: Standard setting: Description:	15 ↔ 45 % 30 % The control system calculates an average air humidity level measured over the previous 24 hours. If the average air humidity in the extract air falls below this level, the "Low humidity" function will be activated. Note! The function is only active in winter mode.
↳ Vent.high humidity	Settings: Standard setting: Description:	Level 2 / Level 3 / Level 4 / Off Level 3 At high humidity levels, for instance when having a bath, the unit changes to the set fan speed level.
↳ Max time high humidity	Settings: Standard setting: Description:	1 ↔ 180 minutes / Off 60 minutes The function "High humidity" stops when actual humidity falls below 3% above the average air humidity. The run of this function has been time limited.

CO_2

This menu is only displayed if a CO2 sensor has been installed.$_2$ sensor.

ATTENTION

CO_2 A CO2 sensor is not a standard part of all units, but may be purchased as an accessory.

If the number of people using a building varies considerably, controlling ventilation through the $CO2_2$ level in the extract air may be a good solution. This function is often used in offices and schools where use varies greatly during the day and during the week.

← CO2

↳ Vent.high CO2 level	Settings: Standard setting: Description:	Level 2 / Level 3 / Level 4 / Off Level 3 Here you indicate the fan speed level at which the unit is to operate at high CO_2 level.
↳ High CO2 level	Settings: Standard setting: Description:	650 ↔ 2500 ppm 800 ppm Here you indicate the CO_2 level at which the unit is to switch to high fan speed level.
↳ Normal CO2 level	Settings: Standard setting: Description:	400 ↔ 750 ppm 600 ppm Here you indicate the CO_2 - level at which the unit is to switch to normal control.

Air exchange

Low humidity in the dwelling can be prevented by reducing ventilation at low outdoor temperatures. This function can be used in countries with regular sub-zero temperatures and at high altitudes where the outdoor air is very dry.

This function can also be used at cold outdoor temperatures if no after-heating element has been installed, and the supply air feels too cold.

← Air exchange

↳ Low temperature compressor start	Settings: Standard setting: Description:	Off / 0-15 °C Off Here you indicate whether, at low outdoor temperatures, the heat pump is to start up even if heating is not required.
↳ Winter low vent.	Settings: Standard setting: Description:	Level 1 / Level 2 / Level 3 / Off Off Here you select the fan speed level at which the unit is to operate at low outdoor temperatures.
↳ Level winter low	Settings: Standard setting: Description:	-20 - 40 °C 0 °C Here you indicate the outdoor temperature at which operation is to change to "Winter low".

Air filter

The filter alarm has a timer. Its factory setting is 90 days between each filter change. If you want to add pressure-controlled filter change, pressure sensors can be connected via digital input and adjustment in the filter menu.

← Air filter

↳ Filter alarm	Settings: Standard setting: Description:	None / 30 / 60 / 90 / 180 / 360 90 days The number of days between filter changes can be set as required. For optimal operation, it is important that filters are clean. A clogged filter increases power consumption and provides less hot water.

Temperature control

The settings are used to control the bypass damper if an after-heating element has not been installed.

If you wish to control the supply air temperature, an after-heating element must be installed. An after-heating element allows you to control the supply air temperature, regardless of the outdoor temperature.

An external electrical after-heating element can be fitted in the supply air duct.

ATTENTION
When heating is not required in the dwelling, the supply air temperature may fall below the minimum temperature.

← Temp. control

↳ Min. supply air summer	Settings: Standard setting: Description:	5 ↔ 16 °C 14 °C Here you set the minimum supply air temperature that the unit should provide in the summer. If the outdoor air temperature is lower than stated, the bypass damper closes, the system runs with heat recovery.
↳ Min. supply air winter	Settings: Standard setting: Description:	14 ↔ 22 °C 16 °C Here you set the minimum supply air temperature that the unit should provide in the winter. Only effective with an after-heating element.
↳ Summer change	Settings: Standard setting: Description:	5 ↔ 30 °C 12 °C Here you set the minimum outdoor temperature for the unit to operate in summer mode. If the outdoor air temperature is lower, the unit will operate in winter mode.

Language

The unit is factory-set to Danish language. You can change the texts to other languages.

← Language

↳ Danish	Description:	Select the desired language on the panel.

Alarm list

Compact units

Alarm list

The list below relates to Comfort units, and the events are divided into the following categories:

⚠	Warning	Operation continues, but something no longer functions optimally.
⚠	Critical	Operation has stopped partially or completely as a serious error requires immediate attention.

ID	Type	Display text	Description / cause	Rectification of error
01	⚠	Hardware error	Error in the hardware of the control system.	If resetting does not help, contact service.
02	⚠	Alarm timeout	A warning alarm has become a critical alarm.	Register alarm and reset. If the alarm persists, contact service.
03	⚠	Fire alarm activated	The unit has stopped because the fire thermostat has been activated.	If there has been no fire, contact service.
04	⚠	Pressure switch	The high-pressure switch in the refrigeration circuit has been triggered, possibly due to: • Extremely warm outdoor air supply • Clogged filter • Defective fan	Check for faults and reset the alarm Contact service if you cannot reset the alarm or if alarms often occur.
06	⚠	Error in de-icing the heat pump	The de-icing time has been exceeded. The exchanger or the heat pump has failed to de-ice within the maximum time. This may be due to the unit being exposed to very low outdoor temperatures.	Contact service if resetting the alarm does not help. Register the current operating temperatures from the "Show data" menu in order to ease the service process.
10	⚠	Over temperature Electrical after-heating	The electrical heating element has overheated. A lack of airflow may be due to clogged filters, a blocked air intake or a defective supply air fan.	Check that air flows into the dwelling. Check filters and the air intake. Reset alarm. If the above does not resolve the issue, contact service.
11	⚠	Low flow over the electrical heating element	Lack of airflow in the supply air. See alarm code 10.	See alarm code 10.
13	⚠	Over temperature electricity supplementary heating HW.	The temperature for the electricity supplement in the hot water tank has been too high.	The over-heating fuse located behind the lower door is to be re-engaged. In case of repeated alarms contact service.
15	⚠	The room temperature is too low	When the room temperature is below 10°C, the unit will stop in order to prevent further cooling of the house. This may, for instance, be during a period when the house is unoccupied and the heating system is off.	Heat up the house and reset the alarm.
16	⚠	Software error	Error in the control system program.	Contact Service.
17	⚠	Watchdog warning	Error in the control system program.	Contact Service.

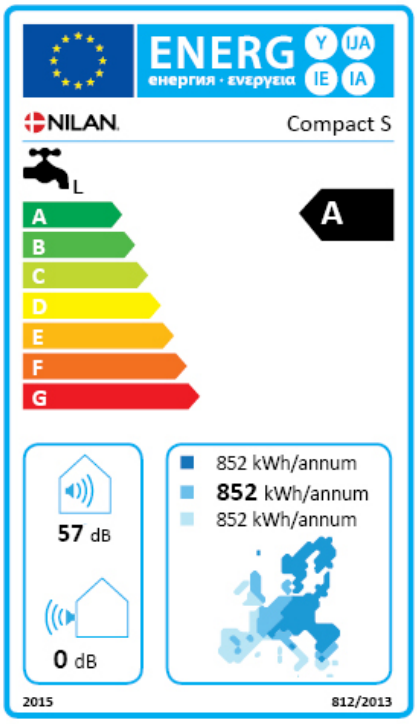
18		Content of database changed	Parts of the program setting have been lost. This may be due to a prolonged power cut or a lightning strike. The unit will continue to operate with standard settings.	Reset alarm. Set the desired week program. Contact service if the unit does not operate to your satisfaction/ as before, as some subprograms may have been lost. (Subprogram is only available for service).
19		Change filter	The filter monitor has been set at X amount of days for check-up/change of filter (30, 90, 180, 360 days). The standard setting is 90 days.	Clean/change filter. Reset alarm.
20		Errors in legionella treatment	Legionella treatment has not been performed within the time limit or number of trials.	In case of repeated alarms contact service.
21		Check date and time	Is displayed during power cuts.	The settings of the weekly clock must be checked and adjusted if necessary. Reset alarm.
22		Error in air temperature	It is impossible to heat the supply air as desired (only applicable if you have an after-heating element). The after-heating element and the unit cannot increase the temperature to the desired level.	Set a lower supply air temperature. Reset alarm.
23		Domestic hot water temperature error	Domestic hot water heating not possible.	Contact service
27-58		Error on the temperature sensor	One of the temperature sensors has either short circuited, been disconnected or is defective.	Register which sensor, Tx, is faulty and contact service.
70		Anode Error	The hot water tank anode is either torn or not connected properly.	Contact service
71		Error de-icing heat exchanger	Max. de-icing time exceeded for counterflow heat exchanger. This may be due to the unit being exposed to very low temperatures.	If resetting the alarm does not help, contact service. Register the current operating temperatures from the "SHOW DATA" menu in order to ease the service process.
72		Abnormal low evaporator temperature	Abnormal evaporator temperature (T6) is due to insufficient air flow.	Change filters, check outdoor air intake is not stopped. In case of constant fault contact service.
92		Backup error	Error when writing or entering the installer's settings.	Contact service.

Technical data

Ecodesign data

Hot water production

Consumer profile, water heater	L (large)
Energy efficiency class	A
Energy efficiency for water heating - average climate	118 %
Annual electricity consumption - average climate	852 kWh/annum
Temperature settings on the thermostat	10 - 65 °C
Sound power level LWA	57 dB(A)
The water heater can function outside peak load periods (Smart-grid)	No
Guidelines for assembly, installation and maintenance	See installation instructions
Energy efficiency for water heating - cold climate	118 %
Energy efficiency for water heating - warm climate	118 %
Annual electricity production - cold climate	852 kWh/annum
Annual electricity production - cold climate	852 kWh/annum



CE declaration

Dimensional drawing Compact S Polar

NILAN
OUTSTANDING INDOOR CLIMATE

EU/EC Declaration of Conformity

For the CE-marking inside the European Union

Nilan A/S

We declare that the Ventilation and Air to Air/Water Heat Pump

Compact S

Confirm to the following EU/EC Directives, providing the products are used in accordance with the ordinary use.

EU-Directives:

- Directive on harmonization of the laws of the Member States concerning pressure equipment (pressure equipment directive)
  2014/68/EU
- Directive on harmonization of the laws of the Member States relating to electrical equipment to be used within certain voltage limits (the low voltage directive)
  2014/35/EU
- Household and similar electrical appliances - Safety - Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers.
  IEC 60335-2-40:2013
- Directive on harmonization of the laws of the Member States relating to electromagnetic compatibility (EMC directive)
  2014/30/EU
- Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS directive)
  2011/65/EU
- Directive of Energy Related Products in a framework which primarily focuses on environmental care of requirements for energy-related products (ECODESIGN)
  2009/125/EU

Harmonized standards applied and EU regulations, in particular:

EN 60335-1	EN 60730-1	(EU) 1253/2014
EN 60335-2-80	EN 50581	(EU) 1254/2014

Hedensted: 2016-08-31

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