

GB

User Manual

Combi 185 L - LS - S

Optima 310

-Heat Pump and Domestic Hot Water

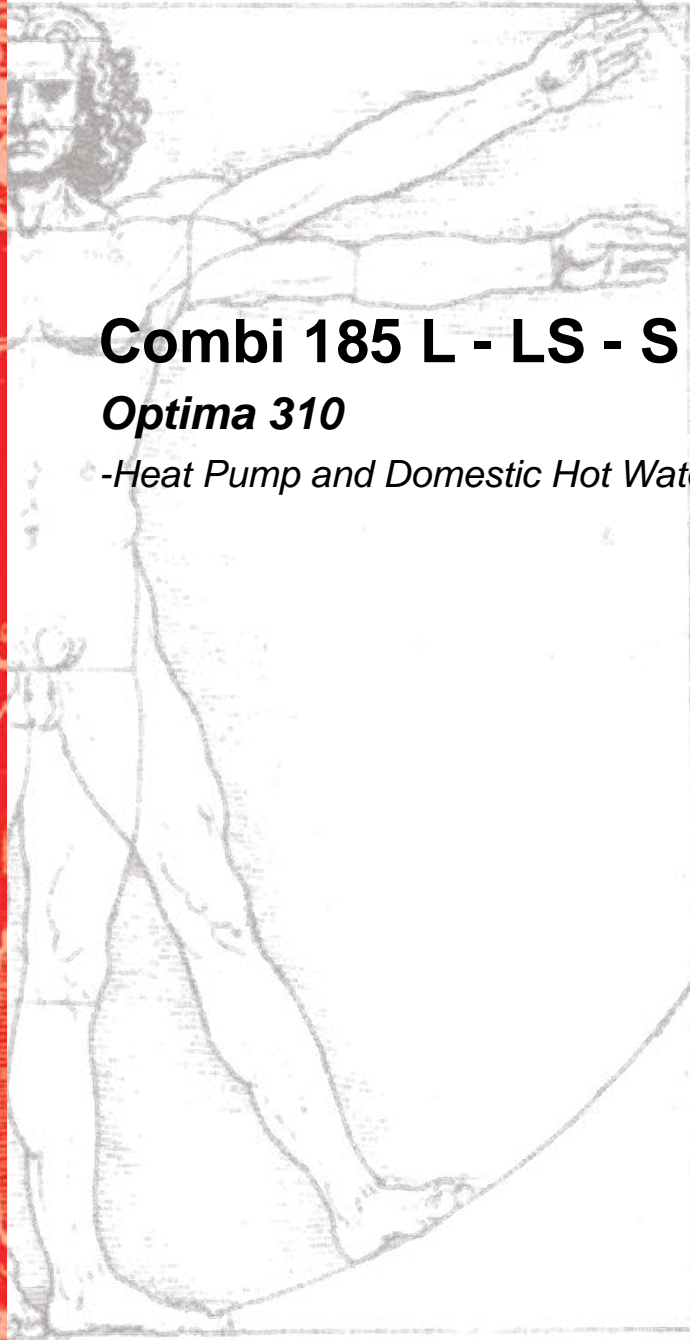


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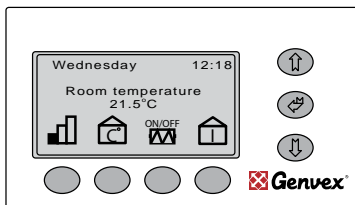
Subject to Technical Modifications

1. Users guide

Optima 310 AC/EC

All Genvex combined domestic ventilation- and water heat pumps and domestic hot water of the types Combi 185, 185S, 185L and 185LS are supplied with optima 310 controller with a factory setup, which enables the immediate start of the unit without changing the operating settings. The factory setups are only basic settings that can be changed according to the operational wishes and demands, you have for your home, to obtain an optimal operation and use of the equipment.

1.1 Use



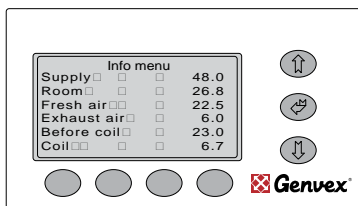
Use this button to change fan speed between low, medium and high. (Level 1, Level 2, Level 3). To stop the unit press this button 3 - 4 seconds until all levels are switched off. Heating coils will turn off immediately while the fans will run for app. 2 minutes in order to cool down the re-heating surfaces.



Use this button to change the desired room temperature.



Using this button, allows a signal to be sent to switch on the electric element to heat up the domestic hot water if required.



Use this button to view all temperatures in the unit, and press arrow down to view which relays are in operation. This will allow you to get a quick overview of the operation of the unit.

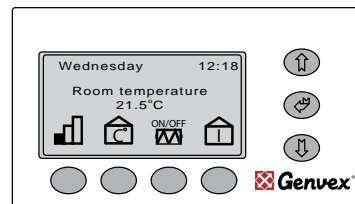
The following temperatures and relay functions are shown in the info menu. The relays are ON when the display shows 1:

- T1: Supply air
- T2: Room
- T3: Fresh air
- T4: Exhaust air
- T5: Before coil (cooling coil)
- T6: Coil (cooling)
- T7: D. water top
- T8: D. water bottom
- T9: Solar collector
- R1: Compressor
- R3: Air heating
- R2: El-heater
- R8: Solar pump
- R7: Supply cool
- R6: Heat room
- R5: Dom. water
- R4: Defrost

1.2 Altering of the operation data

Optima 310 comes with a factory setup, which enables an immediate start of the unit. The factory setup is basic and must be adjusted to the operational requirements and demands of the individual home, in order to obtain the optimum operating benefit from the unit.

The display normally shows the main menu, at which "day of the week, time, room temperature and short-cut keys" can be seen.



Press "Arrow up, Arrow down, Enter" to enter the operating menu. The display now shows the first four points on the operating menu.



Press "Arrow down" to change from one menupoint to the next. Press "Arrow up" to change from one menupoint to the previous one.



If you wish to flick through the pages of the 'operation menu' you may press the "Enter"-button in the middle and this will change the whole page to the next set of menupoints.



When ">>" appears opposite a text, shown as example "language" in below display, you see, there is a "0" on the "Set point" line. By pressing ">", the set point changes to "1".

By pressing "OK", the control system reverts to the main menu and the text changes to English. Now all text in the display appear in English. If, instead, the set point is adjusted to "2", all text in the display will be shown in German.

When the desired language has been selected, enter the main menu once again and change to the next operating point by pressing "Arrow down".

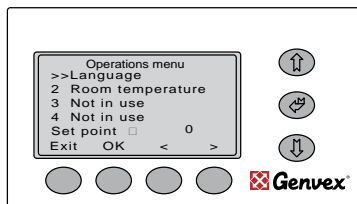
If you wish to flick through the pages of the operating menu, you may press "Enter" to change the whole page to the next set of menu points.

If you wish to return to the previous operating point, you may press "Arrow up".

If you wish to leave the operating menu, press "Exit".

The operating menu will automatically shut down and return to the main menu if no button has been touched for app. 60 seconds, while in the operating menu.

1.3 Operating menu



1: Language

There is a choice of three languages
Set point 0 = Danish, 1 = English, 2 = German,

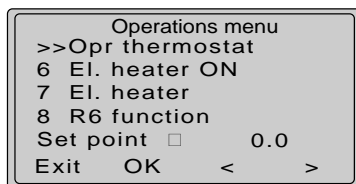
2: Room temperature

The desired room temperature may be set between 10 - 30°C.

(The room sensor is installed the control panel).

3: Not in use

4: Not in use



5: Opr thermostat

The desired domestic water temperature may be set between 0 - 55°C, and will be heated by the heat pump.

6: El. heater ON (domestic hot water)

By setting the set point to 1, the electric heating element will switch on whenever needed. If the set point is adjusted to 0, the electric heating element will not switch on, even if there is a need. At external temperatures below 0°C, it is an advantage

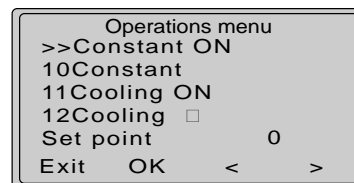
to use the electric heating element to supplement the domestic water heating, as this leaves more heat from the heat pump to be used for room heating

7: El. Heater (domestic hot water)

The desired domestic water temperature may be set between 0 - 65°C. The electric element only heats up the upper half of the tank, while the heat pump continues heating up the lower part to the operating temperature adjusted in menu point 5.

8: R8 function

This relay may be used as follows: If the set point is 0, a circulation pump for the solar collector, may be connected. The control is of this device is according to point 20. If the set point is 1, a circulation pump for a water after heating coil, may be connected. The pump will only switch on if there is a need for heating. If the set point is 2, you may connect supply and exhaust air dampers, which opens and closes, when the unit starts og stops.



9: Constant ON

If other heating systems of the house are not connected with the heat pump unit, or if there is a fire place, it may occur that the other heating systems, may stop the operation of the heat pump. Units without heat exchanger will blow external air directly into the house. By adjusting the set point to 1, the room sensor will be deactivated and the heat pump will be in constant use and blow in warm air when the external temperature is below the set minimum temperature in point 10. If the set point is adjusted to 0, the room sensor will regulate the heat pump regardless of the outside temperature.

10: Constant

If constant ON is activated, this ambient air temperature setting dictates the unit to change to constant operation if the actual ambient temperature is lower.

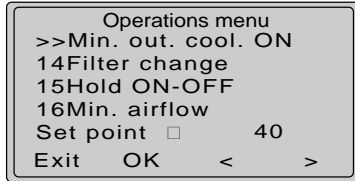
The set point may be set between 0° - 10° C.

11: Reduce ON

At very low ambient temperatures, it may be an advantage to reduce the supply air volume in order to improve the operating conditions of the heat pump and simultaneously achieve a higher supply of air temperature. By adjusting the set point to 1, the supply air volume will be reduced when the external temperature falls below the set temperature. If the set point is adjusted to 0, there will be no reduction of supply air volume regardless of the outside temperature.

12: Reduce sup. Air

If set point 1 has been selected under point 11, it is recommended that the external temperature is set to -10°C. The set point may be set between 0 - -15°C.



13: Airflow suppl.

It is recommended that the supply air volume is adjusted to 20% lower than the set value in menu point 22.

14: Filter change

The control system contains an integral timer which counts the time for which the unit has been in operation since the last filter change. It is recommended that the set point is initially set to 3, meaning three months. If the filters are too dirty, the set point may be reduced. If it is unnecessary to change the filters after three months, the set point may be increased. The set point may be adjusted between 1-6, equal to 1-6 months. When the timer reaches the set value for filter change, the red Genvex logo will begin to flash on the control panel and the words "change filter" will appear on the display. The Genvex logo will continue to flash until the filters are changed. When the filters are changed the filter timer can be reset by pressing "enter" in 10-15 sec. until the Genvex logo begins to flash again and the equipment is back in normal operation.

15: Hold ON-OFF

To avoid forgetting the change of filters although the Genvex logo is flashing on the control panel, the set point may be adjusted to 1. In this case, the unit will automatically stop after 14 days, if the filters have not been changed in the meantime. If this safety feature is not desired, the set point may be adjusted to 0, and the Genvex logo will keep on flashing until the filters are changed.

16: Min. airflow

To achieve optimum operation of the unit, the unit air volume must, as a minimum, conform to the values described in the brochure dealing with the actual unit. If the air volumes are set lower than the minimum requirement, the heat pump will stop and only pre-heated air will be blown from the heat exchanger into all rooms. The minimum air volume is set by the initial adjustment of the unit. The provisional factory setting, is meanwhile 30%.

17: Extended airflow

At 3rd speed, there is an option of making the unit step down automatically to the 2nd speed, after a number of hours, by adjusting to set 1. If the set point is adjusted

to 0, the unit will run at the 3rd speed until a lower speed has been selected manually.

18: Hour

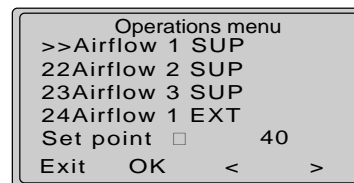
If automatic stepdown at 3rd speed, is in use, the number of hours at which the unit is to operate with forced air, may be adjusted here. The set point may be adjusted between 1 – 10 hours.

19: Suppl. heating (El. or water heated airflow)

By adjusting the set point to 0, the supplementary heat will not cut in, even if there is a need for it. If the set point is adjusted to 1, the supplementary heat will cut in, as needed. This is controlled by the room sensor in the control panel.

20: Solar col hyst

If a solar collector has been connected, a temperature difference may be set, which must be between the water temperature in the solar collector and the operating thermostat of the hot water tank, before the circulation pump of the solar collector is running. When the set temperature of the operating thermostat has been reached, the solar collector circulation pump will not run, even if the temperature difference is larger than the set value. The set point may be set between 0 - 5°C.



21: Airflow 1 SUP

Level 1 is the lowest speed which may be used when being out of the home, e.g. on holidays or weekends. Both fans may be set independently at all levels, to achieve the same air volume on the supply side as on the extract side, thus giving optimum operation. Initial adjustment of the unit must be performed with technical air measurement equipment, and may be done without using the main adjustment damper. Remember if the air volume is set lower than the minimum air volume in point 16, the heat pump will switch off. The provisional factory setting is 40%.

22: Airflow 2 SUP

Level 2 is the normal operating speed for the unit, providing the optimum internal climate and must be regulated to the ventilation needs of the individual home. The provisional factory setting is 70%.

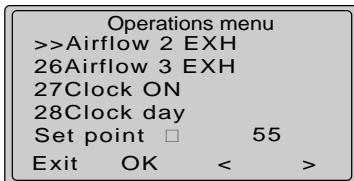
23: Airflow 3 SUP

Level 3 is the highest speed and is in use when having many guests, when airing the rooms, having major activity in the kitchen, or if the unit is used for ventilating offices, institutions etc. The provisional factory setting is 100%. Remember that all over-ventilation is a waste of energy.

24: Airflow 1 EXH

Remember if the air volume is set lower than the minimum air volume in point 16, the heat pump will switch off.

The preset factory setting is 35%.



25: Airflow 2 EXT

The provisional factory setting is 55%.

26: Airflow 3 EXT

The provisional factory setting is 70%.

27: Clock ON

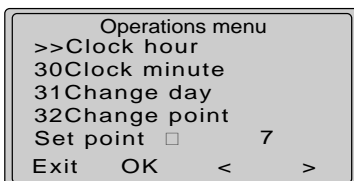
Please Notice: The adjustment of the weekly clock can easily be adjusted after manually filling out the weekly program scheme at page 42.

If it is wished to control the unit with the weekly clock, the set point must be adjusted to 1. The weekly clock allows the speed to be changed automatically up to 10 times per day, while at the same time the room temperature may be changed to a lower temperature for each change period than the set temperature in point 2. If the speed or room temperature is changed with the short-cut keys on the main menu, the weekly program will automatically cut in again, when passing the time of change. If it is desired only to change the speed and room temperature manually, the set point should be adjusted to 0.

28: Clock day

Starting the clock. Adjust the set point to the relevant day of the week.

Monday = 1, Tuesday = 2, Wednesday = 3, Thursday = 4, Friday = 5, Saturday = 6, Sunday = 7



29: Clock hour

Adjust the set point to the relevant number of hours.

30: Clock minute

Adjust the set point to the relevant number of minutes.

31-36:

When the marker ">>" is pointing to menus between 18 and 23 the display heading changes to show actual changing point according to the following format:

Changepoint, Weekday, Time. Example: "3 Monday 20:36"

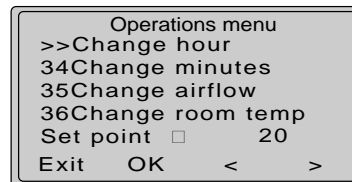
Before compiling a personal weekly program it may be a fine help filling out the week schedule included.

31: Change day

Adjust the set point at the actual day of the week, in which you wish to adjust the changeover times. Monday = 1, Tuesday = 2, Wednesday = 3, Thursday = 4, Friday = 5, Saturday = 6, Sunday = 7

32: Change point

Adjust the set point to the desired changeover time. May be set up to ten times each day.



33: Change hour

Adjust the set point to the hour at which a changeover is desired.

34: Change minutes

Set the set point to the minute at which it is desired to perform the changeover.

35: Change airflow

Adjust the set point to the level (speed) desired for this period of change.

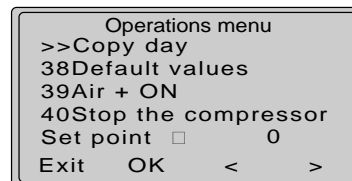
Level 0: Ignore point

Level 1-3: Fan speeds 1-3.

Level 4: Set unit to stand by, only the controller is activated

36: Change room temperature

Adjust the wanted set point to the number of degrees lower, compared to the set room temperature in point 2 for this changing period.



37: Copy day

It is possible to adjust the set point to copy the weekly program of the actual day to the one chosen by the setting. The actual weekday is shown in the top line. With this menu point you can choose which day you wish to copy to the actual day.

38: Default values

Please notice: Before resetting the values please ensure that the actual set points are noted in the scheme page 43.

Here is an option for re-adjusting the set points to default, in case the unit will not meet the requirements and the cause is impossible to locate. Note all set points in the schedule. Adjust the set point to 1 and press OK. Hereafter all set points will be adjusted to factory default, except the fan speeds and contrast settings.

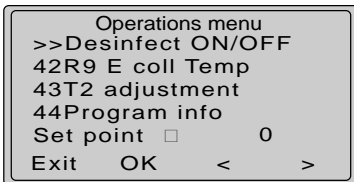
To reset all to factory settings adjust the set point to 2 and press OK. It is now possible to start all over and adjust the set points. Remember to adjust fan speeds at Level 1, 2 and 3 as previous, as these are the numbers to which the unit was initially adjusted.

39: Air +ON

In factory setting the heating priority is water tank first. If it is desired to heat the room before heating water, the setting must be changed to 1.

40: Not in use

The set point must be adjusted to 0.0



41: Desinfection function ON/OFF

By setting the point to 1, the electrical heating element will increase the water temperature to 65°C, once a week, in order to desinfect the tank.

42: R9 Groundc temp

If a ground collector is connected to the equipment and menu 52 point 5 is ON, it is possible to regulate, what lower temperature the ground collector should be in operation.

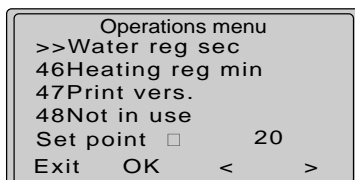
Setpoint can be set between 0° - 10° C.

43: T2 adjustment

It is possible to adjust the room sensor on the control panel so that the display shows the correct room temperature. The temperature may be set between -5 - 0°C.

44: Program info

The set point is always 0. If you press OK; the display will show the installed program version for the heat pump. At the same time, an automatic exit will be made from the operating menu.



45: Water reg sec (Water heated supply air)

If a water after-heating coil has been installed in the supply air duct, it may be necessary to change the regulator time, which has a standard setting of 20 seconds. The regulator time may be adjusted between 1 – 250 seconds.

46: Heating reg min (Electrical heated supply air)

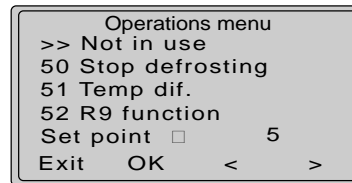
If an electric pre-heating or electric after-heating coil has been installed, it may be necessary to change the regulator time, which has a standard setting of 3 minutes. The regulator time can be adjusted between 1 -30 minutes.

47: Print vers.

Here it is possible to see the vers.number of the operating system

48: Not in use

The set point must be adjusted to 0.0



49: Not in use

The set point must be adjusted to 0.0

50: Stop defrosting

As standard, the defrosting period will stop when the cooling surface has reached a temperature of 5°C, which is the standard setting. In particular operating stages, it may be necessary to change this temperature. The temperature may be set between 0 - 10°C.

51: Temp dif.

As standard the temperature difference between start-stop compressor is ±0,4°. Under special conditions, it will be an advantage to change the temperature difference. The difference may be set between 0,1-1,0°.

52: R9 function

This relay may be used as follows:

If the setting is 0, the relay is off.

If the setting is 1, the relay is on when the unit runs.

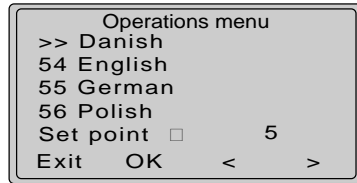
If the set point is 2, the relay is on when additional heating is needed.

If the set point is 3, the relay is on when the filters need to be changed.

If the set point is 4, the relay is on when extra cooling is required.

If the set point is 5, the relay is on when T9 < the lower set temperature in point 42, or when T9 > actual temperature +1° and the adjusted temperature in point 2 + 1°. Is used to control if the fresh air is obtained through the ground collector or directly from the outside.

Optima 310



53: Danish

Select language

54: English

Select language

55: German

Select language

56: Polish

Select language

1.4 Week program scheme

Monday

	Hours	Minutes	Le- vel	Red. T2
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				

Tuesday

	Hours	Minutes	Le- vel	Red. T2
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				

Wednesday

	Hours	Minutes	Le- vel	Red. T2
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				

Thursday

	Hours	Minutes	Le- vel	Red. T2
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				

Friday

	Hours	Minutes	Le- vel	Red. T2
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				

Saturday

	Hours	Minutes	Le- vel	Red. T2
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				

Sunday

	Hours	Minutes	Le- vel	Red. T2
1)				
2)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				
10)				

Red. T2 = Reduced Room temperature

1.5 Defrost program

Before coil °C	Coil °C
15	-5
14	-5
13	-5
12	-6
11	-6
10	-7
9	-7
8	-8
7	-8
6	-9
5	-10
4	-10
3	-11
2	-12
1	-12
0	-13
-1	-14
-2	-14
-3	-15
-4	-15

1.6 Special functions

Summertime:

Changing the clock between summer- and wintertime is done by simultaneously pressing “Enter” together with “Arrow Up” or “Arrow Down”. This will change the clock hour by 1 hour in the desired direction.

Contrast adjustment:

Contrast of the display can be changed by pressing the “Info” button while the program info screen is displayed. Use the arrows to adjust up or down. You can also enter menu 44, press OK and then hold the info button until the display reads “contrast adjust”, and adjust the contrast with “arrow up/arrow down” button. After 4 seconds the contrast adjusting menu is closed.

Program sub-version number:

Pressing “Arrow Up” when the program info screen is displayed will also show sub-version of the controller. Or it is possible to enter through the menu 44, press ok and then “arrow up”

1.7 Factory default scheme

	Factory setting:	Date:	Date:	Date:
1	0			
2	21			
3	0			
4	0			
5	52			
6	0			
7	50			
8	0			
9	0			
10	5			
11	0			
12	-10			
13	50			
14	3			
15	0			
16	30			
17	0			
18	5			
19	0			
20	5			
21	40			
22	70			
23	100			
24	35			
25	55			
26	70			
27	0			
28	1			
29	0			
30	0			
31	1			
32	1			
33	0			
34	0			
35	0			
36	0			
37	0			
38	0			
39	0			
40	0			
41	0			
42	0			
43	-3			
44	0			
45	20			
46	3			
47	0			
48	0			
49	70			
50	5			
51	0,4			
52	0			

2. Function

2.1 Description Optima 310

A Combi unit is used for heating up domestic water and supply air, to provide partial cover of the ventilation and basic ventilation heating needs in the home.

1: Domestic water heating

The domestic water temperature is controlled by sensor T8, which is mounted at the base of the tank. When the need for heating of domestic water arises, the compressor starts, the magnetic valve MA 3 and MA 6 opens and the water is heated to the temperature set (point 5 in the operating menu).

2: Room heating

By room heating the magnetic valve MA 2 and MA 5 is activated. The room temperature is controlled by room sensor T2, mounted on the control panel. If, for example, this temperature has been set to 21°C, the compressor will start up when the room temperature has fallen to 20.6°C. When the compressor has heated the room temperature up to 21.4°C, the compressor will stop. If the compressor cannot maintain the room temperature, the motor valve (unit with water after heating coil) will begin to perform temperature control (PID control) when the room temperature has fallen to 20°C. For units with electric after heating coils (level 1), this will cut in when the room temperature has fallen to 20°C. When the room temperature again reaches 20°C, the electric heat will switch off. Units with electric pre-heating coils will control the same way as units with after heating coils.

3: No heating needs

When there is no need for either water heating or room heating, the compressor will stop, while the fans continue to run. The heat in the extract air is recovered in the counter current heat exchanger and transferred to the supply air.

4: Defrosting

When the temperature difference between the temperature upstream of the cooling coil and the temperature of the cooling coil becomes too large, as happens when ice is formed on the cooling surface, the unit goes into defrost mode. The magnetic valve MA 4 opens and the supply air fan and the electric heating coil, stops until the ice has melted and the cooling coil has reached a temperature of app. 5°C. Then the magnetic valve closes again and the supply air fan and electric heating coil restart operation.

2.2 Extra capacity

Electric element:

If the hot water need is larger than the coverage of the Combi, the electric heating element may be set to ON

in the main menu with a short-cut key. When the electric heating element is ON, sensor T7, mounted in the middle of the tank, will control heating up the upper half to the set temperature (point 7 in the operating menu)

2.3 Operation safety

High pressure switch:

To prevent the compressor exceeding its range of application, there is an integral high pressure switch, which interrupts when the pressure becomes too large. Activate the red reset button once the cause of the error has been identified.

Circuit safety breaker:

If an error should occur in the electric heating element, the safety breaker thermostat will disable the heater. To reset the safety breaker the centre button of the safety breaker must be pressed. The safety breaker is located on the heater. (Remember to disconnect the power supply to the unit, before any work is carried out)

Override control of supply air fan:

If the supply air temperature rises to over 45°C, the speed of the supply air fan will begin to rise, in attempt to stabilise the supply air temperature at 45°C.

2.4 Warnings

Filter timer

To ensure that the filters are changed, and an optimal operation is maintained, the controller has a filter timer (please see point 14 and 15). When the timer reaches the chosen value the display will read "change filter" and the red Genvex logo will flash until the filters has been changed.

Data error

This error will be shown, if no communication is possible between the display and controller. Please control the cable connection on the clips 21 – 24.

Frost alert

This error is shown if a water coil is installed in the system and the temperature of the water coil is too low. Then there is a risk of frost damage. The controller will stop the unit and open the valve to the water coil to keep the coil warm.

Pressure switch error

When the high pressure switch interrupts, the display will read "Pressure switch error" and the red Genvex logo will flash until the red reset button is activated.

3. Maintenance

The following instructions must be followed in order to ensure optimum operation of the Combi:

THE POWER SUPPLY TO THE SYSTEM MUST ALWAYS BE SWITCHED OFF BEFORE OPENING THE COVER.



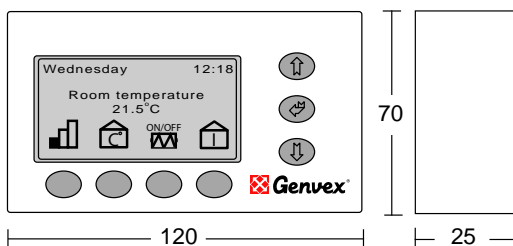
When the unit has been installed for the first time make sure the water drains are checked after a few days to make sure they are performing well.

Environmental considerations

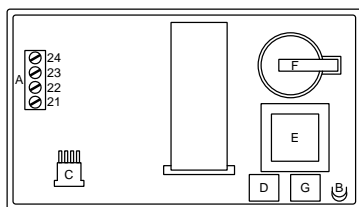
When the unit is being serviced or its operation is cancelled, please make sure to follow the guidelines for recovery and disposal of all materials according to local procedures and laws.

3.1 Connecting to computer

In order for the optima 310 to communicate with the computer (data logger) the communication box "Genvex data logger" has to be installed between the controller and the computer. The data logger is accessory equipment and can be required at Genvex A/S.



Cable acces (bottom rear)



back side

- A: Terminal block. Power connection.
- B: Room sensor T2.
- C: Communication plug to computer (data logger). CTS unit
- D: Data collection IC circuit (Red).
- E: Processor control panel.
- F: Battery.
- G: IC circuit (black).

Between the unit and the control panel a light current cable 4 x 0.25 mm² should be mounted. The maximum cable length is 30 m.

3.2 Servicing

Filters:

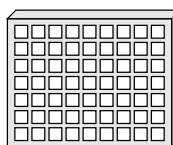
When the red lamp on the control panel flashes, the filters must be changed/cleaned. Stop the unit with the switch on the unit or the electrical panel. Open the front cover and take out the filter. When the filter has been changed or cleaned by shaking it and by removing the worst dirt, switch on the unit and press the enter button on the control panel for 10-15 seconds until the Genvex logo starts flashing again and the equipment is back in normal operation.



Careful handling of the plates is required. They have sharp edges and must not be damaged.



Do not vacuum or clean at high air pressure. It will damage the filter!



- G4 = Standard filter
(Coarse filter class G4)
- F5 = Fine filter (Fine filter class F5)
- F7 = Pollen filter (Fine filter class F7)

Condensate drain:

When changing the filters in the autumn season check the condensate drain and tray for blockage by dirt. Fill water in the condensate tray and check that the water runs out unhindered. Should this not be the case the drain must be cleaned. At the same time make sure that the plates of the evaporators are clean.

Counter current heat exchanger:

Inspect the counter current heat exchanger every three years. If it is dirty, remove it and wash in warm soapy water and then rinse, possibly in the bathroom using the shower head.

Fans:

Every three years check the two fan wheels for dirt. If they are dirty they must be cleaned with a brush, bottle washer etc. Please notice that the balance weight of the fan wheels are not removed causing an unbalance and thereby a higher noise level and abrasion of the fans.

Supply and extract valves:

Clean the valves by wiping with a dry cloth. Make sure the valve does not rotate, causing a change in the air volume.

3.3 Water circuit and tank

Safety valve:

The installer have fitted a safety valve on the cold water supply pipe for the hot water tank. This valve is a protection of the tank against excess pressure when the domestic water expands during heating. The non-return valve, which is fitted before the safety valve on the cold water pipe, prevents the water from flowing back into the cold water pipe. This means that the pressure in the tank will increase to the maximum pressure permitted by the safety valve, at which point it will open and allow the surplus water to escape. If the safety valve did not open, the tank would burst.

To make sure that the safety valve is working properly, it should be inspected several times a year. To do this, press the spring-loaded arm on the safety valve and see if water comes out of the valve. Damage caused by a blocked safety valve is not covered by the Genvex warranty.

Anode:

In order to prevent corrosion of the enamelled hot water tank, the tank is fitted with a magnesium anode with a 3/4" screw plug. This anode has an estimated life time of 2-5 years. It is nevertheless important to check that the anode is intact at all times. This should be done by inspecting the anode every 2 years and replacing it if it is corroded and measures only 6-10 mm in diameter. To inspect the anode, turn off the power supply to the system and remove the front cover. The hot water tank has to be drained before the anode can be unscrewed. To do this, turn off the cold water supply and then attach a hose to the drain cock so that the water can be disposed of down the nearest drain. When draining the water from the tank, turn on a hot water tap to prevent negative pressure in the tank. When the tank is empty, the anode can be unscrewed and inspected. When the anode has been fitted again, close the drain cock and turn the cold water supply back on to fill the tank with water. When the tank is full and the cover back on, the power supply can be switched on again.

3.4 Demounting

The following actions must be taken:

Disconnect the power supply to the unit and disconnect other connections. Shutoff the fresh water supply valve and connect a drain hose to the drain valve in order to drain the water. While draining, a hot tap water valve should be opened to avoid under pressure in the tank. The air duct connections are uninstalled and remaining air channels must be closed to avoid condense water entrance to the building.

4. Fault finding

The unit is equipped with the following safety equipment:

4.1 High pressure switch:

To prevent the compressor exceeding its range of application, there is an integral high pressure switch, which interrupts when the pressure becomes too high. In case of interruptions (too high pressure) the red light in the control panel will flash and the high pressure switch will stop the heat pump. The red light lights. Restart the equipment by manually resetting the high pressure switch.

For manually resetting the high pressure switch. The front door can be removed by releasing the screws.

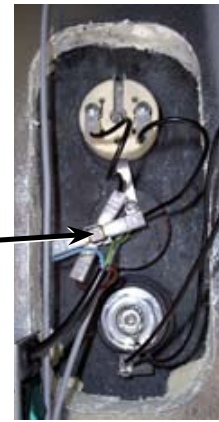


For **RESET**
press the
red pin

4.2 Safety breaker for electrical water heater

The safety breaker protects the equipment against overheating during heating with the electrical heating element. The safety breaker is mounted on the heater. If the adjusted value (90°) is exceeded the heating coil will disconnect. It can be reconnected when the temperature is below 90°. To do this, the power to the equipment must be off, front door dismantled and the front cover of the heating element dismantled. The reset button can now be pressed.

Please notice: Be careful not to damage or tear the cables to the control.



For **RESET**
press the
white pin

4.3 Heat pump will not operate Unit has stopped:

Please control:

- is the unit connected to the power circuit?
- is power present in the electric outlet?
- is the heat pump disconnected by the temperature control?
- is the water temperature >55°?
- is the cable between the control and the control panel installed?
- has the high pressure switch switched?
- is the filter changed?

Condensate running out of appliance:

Error:

- Condensate drain blocked by dirt

4.4 Air faults

No supply air to living rooms:

Error:

- Defective fan
- Blocked bag filter
- Fresh air grill blocked by dirt and leaves in the autumn or snow and ice in the winter.
- Fuse on control circuit board has blown

No extract air from wet rooms:

Error:

- Defective fan
- Blocked flat filter
- Fuse on control circuit board has blown
- Roof diffuser is blocked by snow and ice in the winter

Cold supply air:

Error:

- Counter current heat exchanger is blocked with dirt or ice
- Extract fan defective
- Extract filter blocked
- Heat pump defect
- Cooling coil blocked with ice
- Control panel or circuit board defect
- Sensor defect

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Published by Genvex A/S, Sverigesvej 6, DK-6100 Haderslev