

helo
GENUINE SAUNA & STEAM

INSTRUCTIONS FOR INSTALLATION AND USE

FUSION

ELECTRIC SAUNA HEATER:

1117 - 60 - 0405

1117 - 80 - 0405

1117 - 90 - 0405

CONTROL PANEL:

1601 - 20



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1. Quick instructions for use of the sauna heater

1.1 Check before taking a sauna bath

The sauna room is suitable for taking a sauna bath.

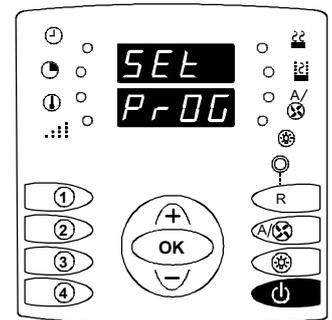
The door and the window are closed.

The sauna heater is topped with stones that comply with the manufacturer's recommendations, the heating elements are covered with stones, and the stones are piled sparsely.

NOTE: Structural clay tiles are not allowed.

1.2 Quick start of the sauna heater

Press the Start button, when the control centre is in standby mode (display dark). "SET PROG" is displayed and the control centre goes to use / programming mode and waits for user's selection.



Select one of the pre-programmes sauna programs with the buttons 1 -4

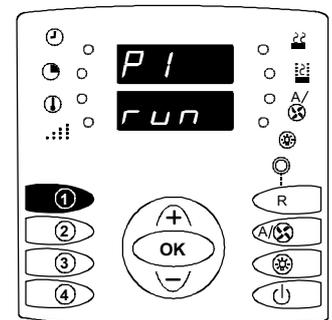
(memory slot 1 selected in the picture). The factory settings for the memory slots 1 -4 are as follows:

Memory slot 1: Normal sauna / 80°C / 2 hours

Memory slot 2: Normal sauna / 90°C / 2 hours

Memory slot 3: Steam sauna / 50°C / 60% / 2 hours

Memory slot 4: Steam sauna / 60°C / 38% / 2 hours



Memory slot contents may be reviewed without turning the sauna heater on and the contents may freely be modified to accommodate user preferences. For more detailed instructions, see 2.6 "Using the sauna heater control device."

If a sauna heater with manual water intake and a steam sauna program is selected, make sure that there is enough water in the water tank. Filling the tank is significantly safer when the sauna heater is cold.

Persons with reduced physical and mental capacity, sensory handicap, or little experience and knowledge about how the device is operated (e.g. children), should only operate the device while supervised or according to instructions given by the persons in charge of their safety.

Make sure that children aren't playing with the sauna heater.

2. Information for users

2.1. Sauna heater and its components

Sauna heater

The Fusion's design and technical properties make it a unique sauna heater. It combines traditional dry and hot, and a lower temperature and moist way of sauna bathing. The integrated steamer in the sauna heater makes this possible. The water vapours the steamer produces increases the pleasure of sauna bathing and it has beneficial effects on skin and health.

The steamer's water tank is situated in the front of the sauna heater, which makes the steam spread more quickly into the sauna room. It also facilitates maintenance of the water tank. The scent cup on top of the water tank may be used for aromatherapeutic scents to increase the invigorating effects of sauna bathing. NOTE: Do not use scents in the water tank!

There are two possible ways of filling the tank with water, depending on the sauna heater.

Manual water intake

If the sauna heater is equipped with manual water intake, the filling is done by raising the scent cup and then pouring water into the tank with a jug or similar, up to the max marking. The tank should be filled always before turning the sauna heater on, because the scent cup will heat up to scalding temperatures when the sauna heater is turned on.

The water tank capacity is about 5 litres, and there is an indicator at the front of the sauna heater for viewing the water level.

Automatic water intake (optional)

There is an automatic water intake feature in some models of the sauna heater. This means that the sauna heater has a water connection and automatic water level measuring. The sensor in the tank senses when there is a need to increase water in the tank and automatically fills the tank.

Sensors

Two sensors are installed in the sauna room: one temperature sensor and one humidity sensor. An electrician installs the sensors, placing them in predetermined points in the sauna room.

Temperature sensor OLET 19

The temperature sensor monitors the temperature of the sauna room and controls the sauna heater output so that the desired temperature is kept as stably as possible. The sensor has in-built temperature limiter. The limiter cuts power off the sauna heater, if the temperature in the sauna room raises dangerously high. Tripping of the limiter will cause an error message in the control centre display, see page

Humidity sensor OLET 21

The humidity sensor monitors the air humidity in the sauna room and it controls the steamer so that the humidity is as stable as possible all though the sauna bathing. When the steam feature is in use, also the humidity sensor measures the temperature of the sauna room.

Digital control centre

With the control centre the user can set the steamer function, temperature, starting time, bathing time, etc. An electrician installs the control centre outside the sauna room either as surface mounting or as flush mounting. The user can set the time easily, or it may be left for the installer to set. For additional information on the control centre, see page 7 2.6 – Operation of the sauna heater controls.

2.2. Sauna room

The walls and ceiling of a sauna room should be thermally well insulated. All surfaces that store heat, such as tiled and plastered surfaces must be insulated. It is recommended to use wooden panel cladding inside the sauna room. If there are heat storing elements in the sauna room, such as decorative stone, glass etc., note that these elements may extend the pre-heating period even though the sauna room is otherwise well insulated (see page 17, 3.1 Preparing for sauna heater installation).

2.3. Recommended sauna room ventilation

For additional information on recommended sauna room ventilation, see page 20, 3.3 – Recommended sauna room ventilation.

2.4. Heating the sauna

Before turning the sauna heater on, make sure the sauna room is suitable for taking a sauna bath. When heated for the first time, the sauna heater may emit some odour. If you detect any odour while the sauna heater warms up, disconnect the sauna heater briefly, and air the room. Then turn the sauna heater back on.

Sauna heater with a separate control centre, see page 7, 2.6 - Operation of the sauna heater controls.

You should turn the sauna heater on roughly an hour before you plan to take a sauna bath, so that the stones have time to heat up properly and the air warms up evenly in the sauna room.

Do not put any objects on the sauna heater. Do not dry clothes on the sauna heater or anywhere in its vicinity.

2.5. Sauna heater stones

Quality stones meet the following requirements:

1. Sauna stones should withstand heat and heat variation caused by vaporisation of the water thrown on the stones.
2. Stones should be rinsed before use in order to avoid odour and dust.
3. Sauna stones should have an uneven surface to supply a larger surface for the water to evaporate from.
4. Sauna stones should be large enough, measuring about 50–80 mm to allow good ventilation between the stones. This extends the useful life of the heating elements.

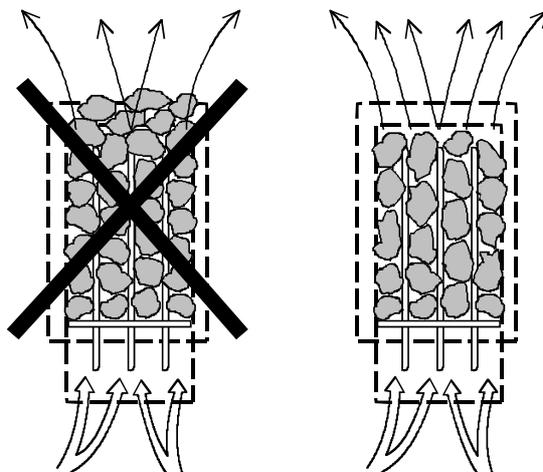
Sauna stones should be piled sparsely in order to enhance ventilation between the stones. Do not bend the heating elements together or against the frame.

Rearrange the stones regularly (at least once a year) and replace small and broken stones with new, larger stones.

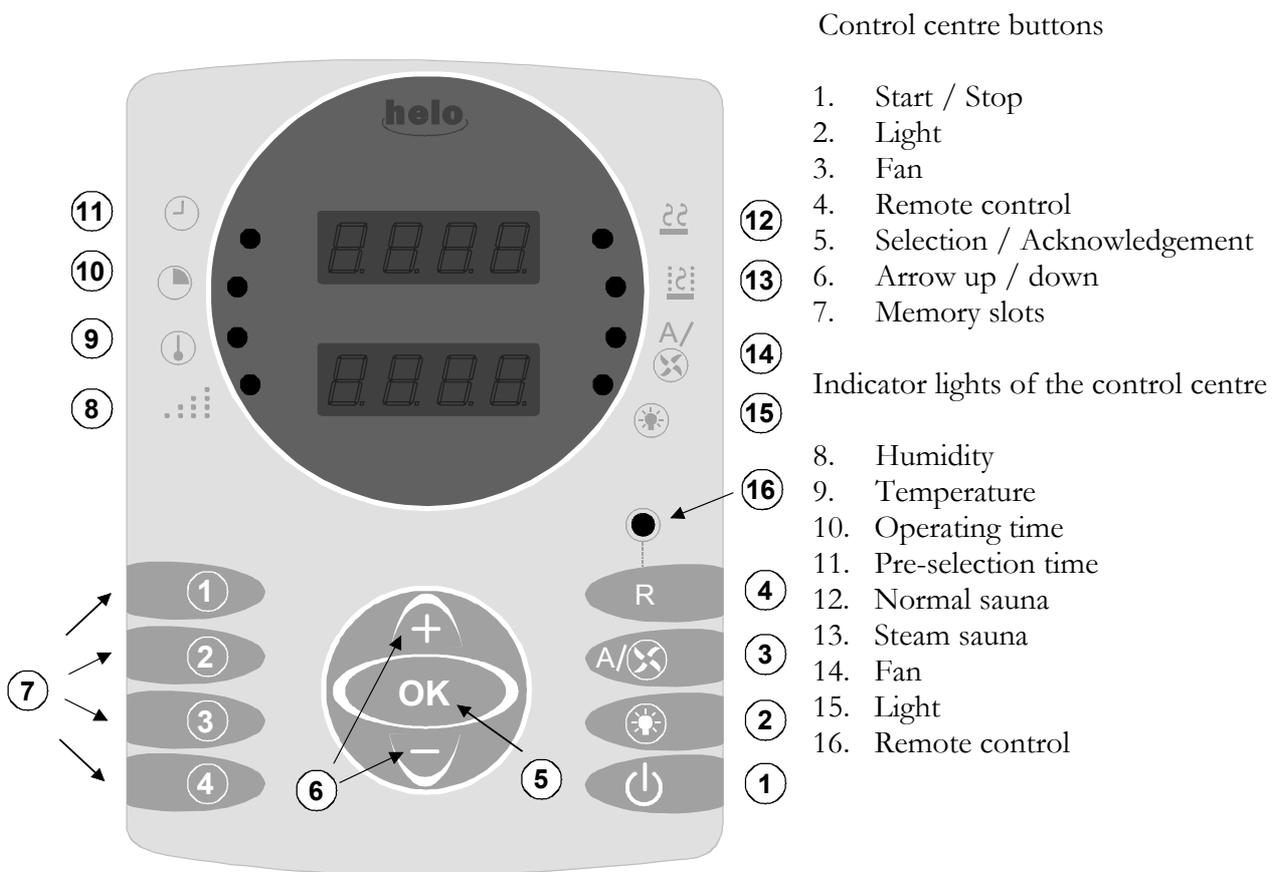
Stones are piled so that they cover the heating elements. Do not, however, pile a large heap of stones on the heating elements. For appropriate amount of stones, see table 1 on page 19. The small stones possibly found in the package must not be put into the sauna heater.

The warranty does not cover defects resulting from poor ventilation caused by small and tightly packed stones.

Structural clay tiles are not allowed. They may cause damage to the sauna heater that will not be covered by the warranty.



2.6. Operation of the sauna heater controls



Control centre buttons

1. Start / Stop
2. Light
3. Fan
4. Remote control
5. Selection / Acknowledgement
6. Arrow up / down
7. Memory slots

Indicator lights of the control centre

8. Humidity
9. Temperature
10. Operating time
11. Pre-selection time
12. Normal sauna
13. Steam sauna
14. Fan
15. Light
16. Remote control

2.6.1. Control centre operation modes

Standby mode: The control centre display is dark and the following functions are possible.

- Checking and setting the time
- Checking the memory slot contents
- Setting the remote control mode

Use / programming mode

Basic mode of the control centre when the Start button programming mode is pressed. The following functions are possible in this

- Starting the sauna heater as quick selection (Memory slots 1-4)
- Programming the memory slots
- Setting the mode, time, temperature, humidity and pre-selection time for bathing

Pre-selection mode: If there is a pre-selection time set in the use / programming mode, the control centre goes into this mode as soon as the settings are saved. The following settings may be modified in this mode

- Pre-selection time

Heating mode: The control centre goes into heating mode after the pre-selection time has expired or when a quick selection is used. The following settings may be modified in this mode

- Bathing time
- Bathing temperature
- Humidity (only when the bathing mode is steam sauna)

Drying mode: This mode is in use only when the bathing mode is steam sauna. The control centre goes automatically into this mode as soon as the bathing time has expired. The drying time is 30 minutes at 90 °C (these settings can not be modified). The drying mode may be aborted by pressing the Start / Stop button.

NOTE: If bathing is stopped before the bathing time has expired, the control centre will not go into drying mode, but directly into standby mode.

Remote control mode: If the sauna heater is equipped with a remote control device, the control centre may be set in a remote control mode. The sauna heater may then be remotely started with desired quick selection program. For more information about remote controlling, see 2.6.5 Setting the remote control mode, and 3.8 Sauna heater remote control.

The following functions are independent of the control centre mode, so they may be used always

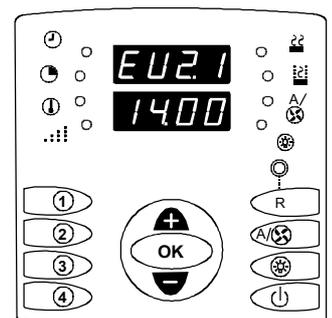
- Lighting controls
- Fan controls

2.6.2. Time setting

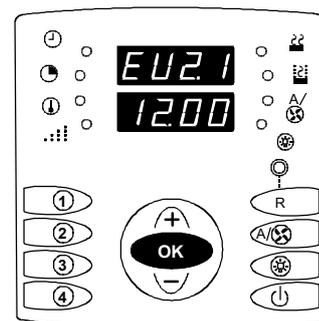
If power is cut off for over 30 seconds (either from the sauna heater main switch or due to blackout), the control centre clock will reset to factory setting (12:00). During shorter cut offs (under 30 seconds), control centre backup use will keep the clock in time. Checking and setting the time may only be done when the control centre is in standby mode.

1. With the control centre in basic mode, press the OK button.

The upper display shows the software version and the lower display shows the time. The hour separator (dot) flashes to indicate that the clock is running. If no button is pressed within 5 seconds, the control centre returns to standby mode.



2. When the OK button is pressed again, the hour separator stops flashing to indicate the clock is stopped and may now be set to desired time. The setting is done by pressing either arrow up (+) or arrow down (-) buttons. A short press will step a minute at a time and a long press will scroll the number with acceleratingspeed.
3. When the desired time is displayed, confirm the setting by pressing OK. The hour separator starts flashing to indicate that the clock is running. In 5 seconds the control centre returns automatically to standby mode.



2.6.3. Checking the bathing program

Fusion sauna heater control centre is equipped with 4 memory slots which may be programmed with unique bathing programs. As factory settings the memory slots 1 and 2 are programmed with normal sauna programs and the slots 3 and 4 with steam sauna programs. It is possible to program a personal bathing program into the memory slots. These programs are stored in the memory, even if power is cut off the control centre. Bathing programs can be checked when the control centre is in standby mode. For more detailed instructions for setting bathing programs, see 2.6.4 - Setting bathing program and - Saving bathing program. page 12

1. With the control centre in standby mode, press and keep pressed the number of the memory slot you wish check and keep the button pressed. The upper display shows the number of the memory slot. Keep the button pressed.
2. After about 2 seconds the display show the set values for that memory slot. The upper display shows bathing time and the lower display shows bathing temperature. If a steam sauna program is stored in the memory slot, the lower display shows first the bathing temperature and then the humidity setting.
3. The indicator light by the display indicate, which value is shown on the display. The control centre returns to standby mode when the button is released

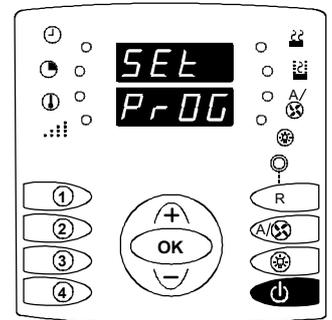
NOTE: If the memory slot buttons are pressed when the control centre is in use / programming mode, the sauna heater will turn on immediately with the program stored in that memory slot (see 1.2 - Quick start of the sauna heater).

2.6.4. Setting the bathing program

If you do not want to use any programmes bathing programs or you

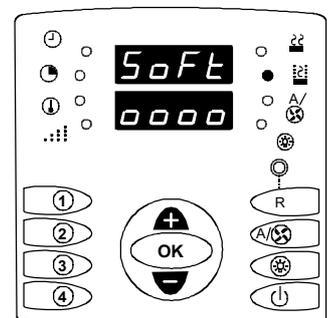
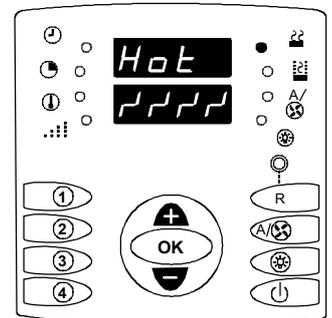
want to modify one of the existing programs, some settings must be programmed in the control centre. These settings include bathing mode, time, temperature, humidity (only for steam sauna) and the possible pre-selection time.

The settings are made with the control centre in use / programming mode. This mode can be entered by pressing the Start/Stop button when the control centre is in standby mode. When the control centre is in use / programming mode, the display show the text "SET PROG". You can move to the next setting by pressing OK, which also saves the set value.



Selecting bathing mode

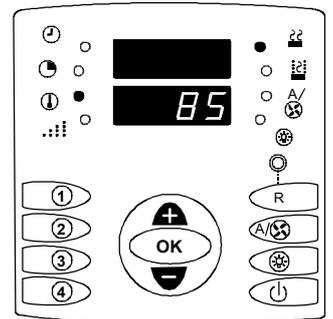
The first setting in programming a bathing program is selecting the bathing mode. You can select either a normal dry and hot sauna (HOT) or milder and more humid steam sauna (SOFT). The selection is made with the arrow buttons and confirmed with the OK button. Both the display and the indicator light show, which bathing mode is selected.



Setting the bathing temperature

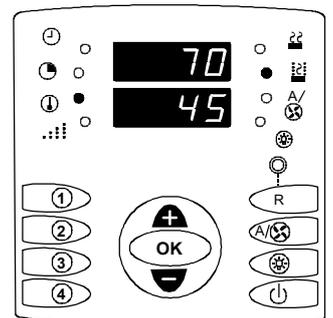
The next setting is the bathing temperature. The temperature set value display depends on the selected bathing mode.

Normal sauna: The lower display shows the set bathing temperature. The value can be freely changed between 5 – 110 °C with the arrow buttons. When the setting is confirmed, the control centre goes directly to Setting the bathing time.



Steam sauna: The lower display shows the set bathing temperature.

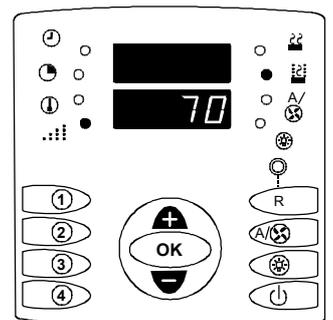
The upper display shows the maximum humidity setting with the selected temperature setting. When the bathing temperature is changed, the humidity setting also changes. Note that the temperature set here affects the humidity setting set in Setting humidity, the value shown in the upper display cannot be exceeded.



If the bathing mode is steam sauna and the temperature setting is exceptionally low in contrast to the humidity setting (e.g. 30°C and 90%), the sauna room may heat up over the set temperature before the set humidity is achieved.

Setting the humidity

This setting may only be modified when steam sauna is selected for the bathing mode. Because the humidity setting depends on the temperature, the control centre defines the maximum value when the temperature setting is set (see Setting the bathing temperature). This maximum value can no longer be exceeded here. If you want a higher humidity value, the temperature setting must be lowered. The humidity value may freely be set within the maximum limit with the arrow buttons.



Setting the bathing time

The bathing time is set next. The setting can be freely set within the maximum limit (in a apartment sauna maximum of 6 straight hours). Take into consideration the heating time, which depends on the size of the sauna room and the power rating of the sauna heater, when setting the bathing time.

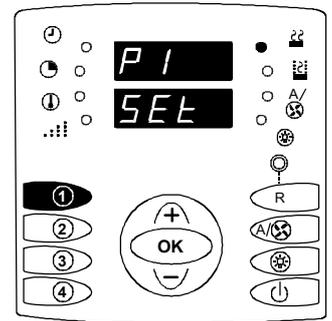


Saving the bathing program

After setting the bathing mode, temperature, (humidity) and bathing time, the user can save the current setting to the control centre memory slots (1-4). The control centre indicates this by showing "SAVE PROG" on the display.



The bathing program is saved by pressing the memory slot button, where you want to save the program (for example, in the image, the program is saved in memory slot 1). Note that the program that previously was in that memory slot is overwritten when the new program is saved. If you do not want to save the program, press OK or wait for about 10 seconds, and the control centre will automatically move to next phase.



Setting the pre-selection time

The last setting is the pre-selection time. The control centre can be timed to start at desired point of time up to 23 hours later. The default setting for pre-selection time is the current time plus 5 minutes.

The upper display of the control centre shows the current pre-selection time and the lower display shows the current time. If you want the sauna to heat up immediately after making the settings, set the pre-selection time to match the current time. The sauna heater will turn on immediately when the OK button is pressed. You can freely modify the pre-selection time when the control centre is in pre-selection mode.



2.6.5. Setting the remote control mode

If the sauna heater is equipped with a remote control device, and the remote control function is activated (see 3.x - Sauna heater remote control), the control centre can be set in remote control mode.

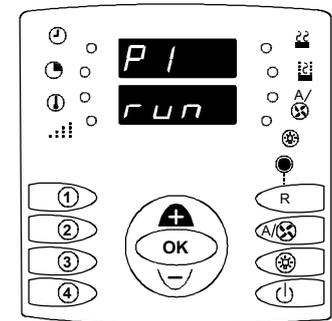
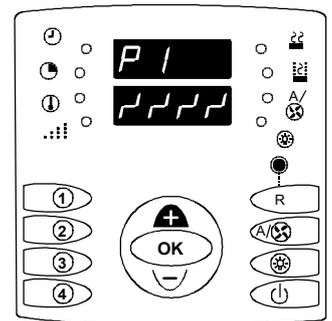
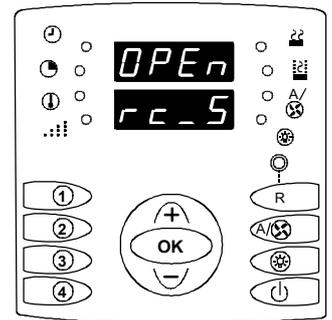
Setting the remote control mode is only possible when the control centre is in standby mode and there is no starting request from the remote control device. If you try to set the control centre to remote control mode when there is a starting request from the remote control device, an error message "OPEN RC_S" is shown on the display.

You can move to remote control mode by pressing the "R" button with the control centre in standby mode. The display will then show the last used quick selection program (P1..P4) and mode of that program (normal or steam sauna). The image shows the memory slot 1 selected with normal sauna program. The desired bathing program can freely be selected by pressing the arrow up button. The remote control indicator light will flash to indicate that the control centre is in remote control mode.

When the sauna heater gets a starting request from the remote control device, the control centre display show the selected quick selection program and the text "RUN" for a moment, and the sauna heater indicates the received starting request with a buzzer. After that, the control centre goes to heating mode. If the starting request is lost, the sauna heater is turned off immediately.

NOTE:

Before setting the remote control mode, make sure that the sauna room is fit for bathing (doors and windows closed, no extra stuff in the sauna room and near the sauna heater). The person setting the remote control mode is responsible for the sauna being safe to be turned on remotely. The remote control mode must be set again after each bathing. This is to make sure, the heating is safe. Possible power failure will reset the remote control mode, and it must be set again.

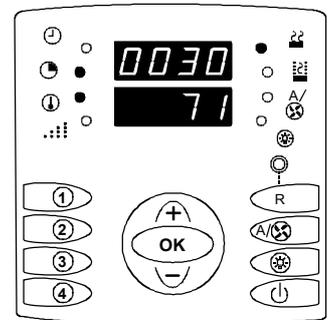
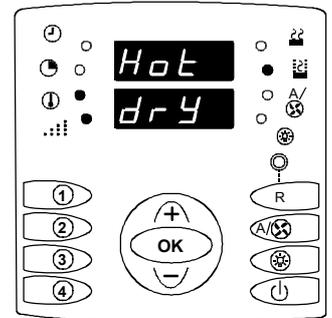


2.7. Special functions in steam sauna mode

Few of the control centre functions are available only when the selected bathing mode is steam sauna. These include drying mode and alarm for the need of filling the water tank.

2.7.1. Drying mode

This mode is in use only when the bathing mode is steam sauna. After the bathing time has expired, the drying program starts automatically. The control centre indicates this by showing "HOT DRY" on the display and the sauna heater's buzzer goes off for 10 seconds. After that the control centre shows the remaining drying time and the current temperature of the sauna room. The drying time is 30 minutes and the temperature setting is 90 °C. The drying mode may be aborted at any time by pressing the Stop button. After the drying program has ended, the control centre returns to standby mode.



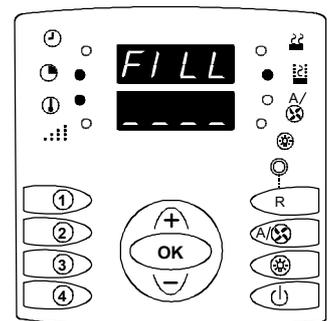
2.7.2. Water tank filling notification

Sauna heater with manual water intake

If the water level is below the lower limit, the sauna heater cuts off steam production and indicates the need of filling with a buzzer. The control centre will flash "FILL" on the display. After filling the tank, the control centre and the sauna heater will automatically return to normal operation.

Sauna heater with automatic water intake

Sauna heaters with automatic water intake are connected to water supply line, and the sauna heater will automatically keep the water level up. There is no notification for filling in this model.



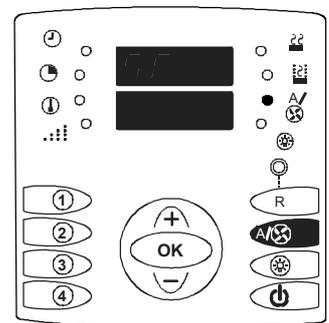
2.8. Light and fan

The Fusion sauna heater is equipped with a possibility to control both a separate exhaust air fan and lighting (e.g. fibre optic lighting of the sauna room). Connector for these functions are in the sauna heater control panel box. When a function is activated, the connector goes live and it may be loaded as follows:

- Fan function max. 1A
- Light function max. 1A

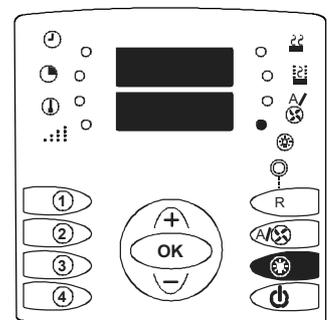
Fan function

The fan function is activated by pressing the "Fan" button in the control centre. The fan function indicator light lights up. The fan function can be controlled independently from the control centre mode.



Light function

The light function is activated by pressing the "Light" button in the control centre. The control centre light function indicator light lights up. The light function can be controlled independently from the control centre mode.



2.9. Maintenance

Sauna heater

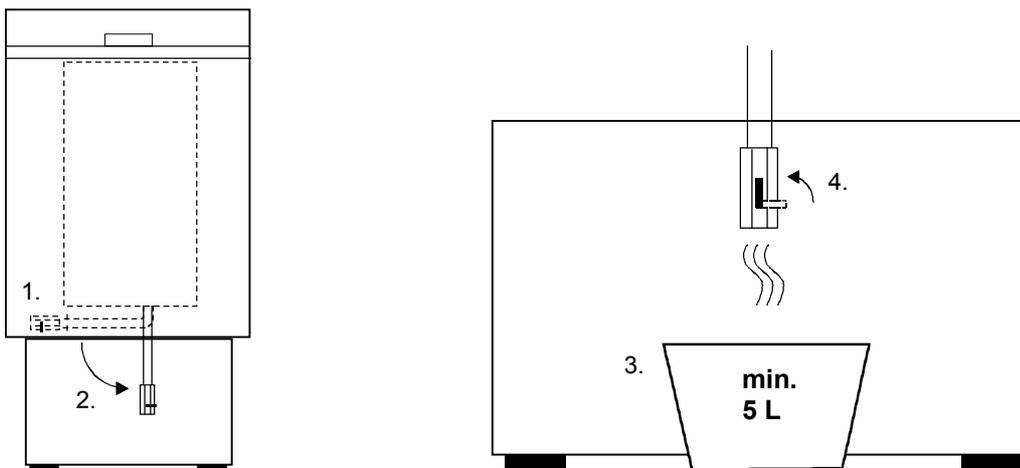
There may be chalky remains from the water on the sauna heater surface. Clean it with a cleaning and care solution for rest fixtures.

Water tank

The tank should be drained after every use. This reduces the amount of chalky remains accumulating on the inner surface of the tank. The tank is drained as follows (see image):

1. Release the draining hose from its brackets (under the tank).
2. Let the draining hose dangle freely.
3. Put a container with a capacity of at least 5 litres under the draining hose.
4. Open the draining hose tap and let the tank drain.

If the tank is drained immediately after bathing, note that the water is scalding hot, and the draining hose and tap will also heat up during draining.



Just draining the tank is not enough, it should also be cleaned thoroughly 2 -4 times a year.

The easiest way to clean the tank is to make a decalcifying solution by mixing 50g of citric acid with one litre of water. Pour this solution into the water tank and add water up to the max mark (sauna heater with manual water intake). Select steam function from the control centre and set high humidity and low temperature (the purpose is to boil the water as soon as possible without unnecessarily heating the sauna room). Set long enough operating time so that the water has time to boil for about 15 minutes in the tank (the time selection is not critical, you can turn the sauna heater off after 15 minutes of boiling). Then drain the water tank and rinse it with clean water. If desired, you can make the cleaning more effective by brushing the inner surface of the tank with a brush with hard bristles.

3. Instructions for the installer

THE PERSON INSTALLING THE SAUNA HEATER SHOULD LEAVE THESE INSTRUCTIONS TO THE PREMISES FOR THE FUTURE USER.

3.1. Preparing for sauna heater installation

Check the following before installing the sauna heater:

1. The ratio of the heater's input (kW) and the sauna room's volume (m³). Volume/input recommendations are presented in the table 1 on page 19. The minimum and maximum volumes must not be exceeded.
2. The sauna room ceiling must be min 1900 mm high.
3. Uninsulated and masonry stone walls extend the preheating time. Each square metre of plastered ceiling or wall surface adds 1.5 – 2 m³ to the sauna room's volume.
4. Check page 21, Table 2 for a suitable fuse size (A) and the correct diameter of the power supply cable (mm²) for the sauna heater in question.
5. Conform to the specified safe clearance around the sauna heater, see page 19, Table 1 and Image 1. There should be enough room around the sauna heater for maintenance purposes, a doorway, or similar.

3.2. Installation

Follow the safety clearance specifications on page 19 when installing the sauna heater. Thin panel is not a suitable mounting base. The mounting base must be reinforced with timber behind the panel. The minimum clearances specified on page 19 must be followed also in case the sauna room wall materials are incombustible.

Walls or ceilings must not be clad with fibre-reinforced plaster board or other light-weight cladding, because they may cause a fire hazard.

A single sauna heater is allowed per a sauna room.

MOUNTING THE SAUNA HEATER ON A WALL

With the adjustment legs driven in, the mounting height of the sauna heater wall mount height is 635mm. The adjustment legs can be adjusted 15mm if the floor is not even. The maximum mounting height of the wall mount is 650 mm. After the mounting, check that all the adjustment legs are evenly on the floor.

The distance between the holes for the mount in the wall.

Parts for wall mounting:

- part to be connected to the sauna heater 2 pcs
- wall mount 1 pcs
- self-tapping screw 4.2 x 13mm 2 pcs
- coach screw 6 x 40mm 2 pcs

The part to be connected to the sauna heater are passed through the holes in the heater so that the ingoing part is turned upwards.

The wall mount is attached to a wall so that the holes are on the upside.

The mount may also be attached to the heater beforehand. Mark the screw points to the wall beforehand and if necessary, drill small holes for them. Then mount the heater to the wall with the provided screws.

Wall mount attached to heater.

The parts in the heater are attached to the mount with self-tapping screws.

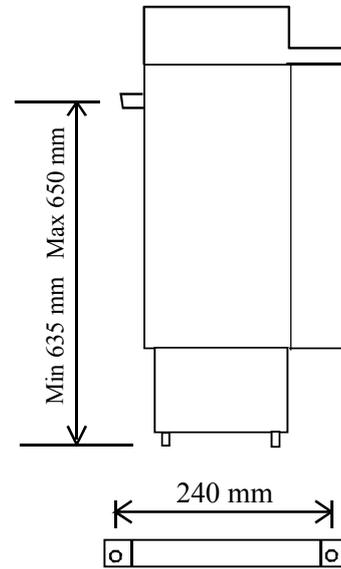
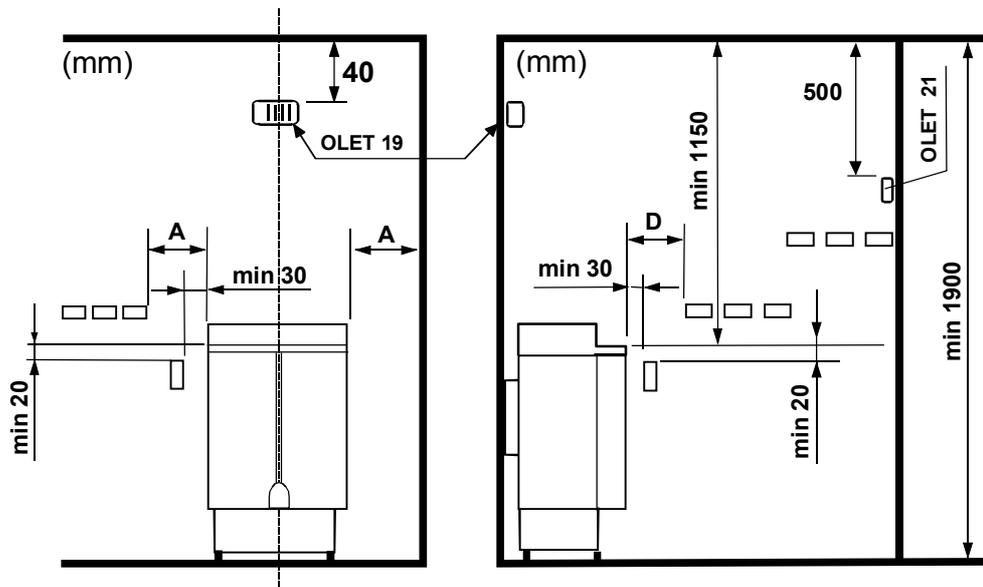


Table 1. Sauna heater safety clearances:

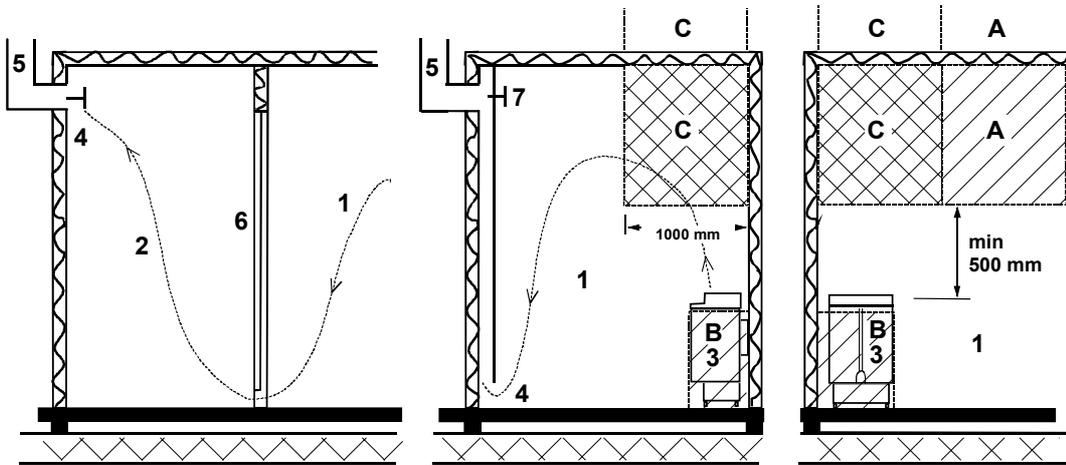
Output	Sauna room			Safety clearances minimum			Appropriate amount of stones
	Volume minimum	Volume maximum	Height minimum H	Side wall A	In front of D	Ceiling F	
kW	m ³	m ³	mm	kW	m ³	m ³	mm
6,3	5	9	1900	70	100	1150	23
8,0	8	12	1900	100	150	1150	23
9,0	9	13	1900	100	150	1150	23



Picture 1. Sauna heater safety clearances:

3.3. Recommended sauna room ventilation

Sauna room ventilation



- | | | |
|--|--------------------------|----------------------------|
| 1. Sauna room | 3. Electric sauna heater | 5. Exhaust flue or channel |
| 2. Washroom | 4. Exhaust valve | 6. Door to the sauna room |
| 7. A ventilation valve can be installed here to be kept closed while the sauna is heated and during bathing. | | |

Inlet vent can be positioned in the A zone. Make sure the incoming fresh air will not interfere with (i.e. cool down) the sauna heater's thermostat near the ceiling.

The B zone serves as the incoming air zone, if the sauna room isn't fitted with forced ventilation. In this case, the exhaust valve is installed min 1m higher than the inlet valve.

DO NOT INSTALL INLET VALVE WITHIN ZONE C, IF THE SAUNA HEATER'S CONTROL THERMOSTAT IS LOCATED AT THE SAME ZONE.

3.4. Main connection

The sauna heater must be connected to the mains by a qualified electrician and in compliance with current regulations. Sauna heater is connected with a semi-permanent connection. Use H07RN-F (60245 IEC 66) cables or a corresponding type. Other output cables (signal lamp, electric heating toggle) must also adhere to these recommendations. Do not use PVC insulated cable as a connection cable for the sauna heater.

A multipolar (e.g. 7-pole) cable is allowed, if the voltage is the same. In the absence of a separate control current fuse, the diameter of all cables must be the same, i.e. in accordance with the front fuse.

The connecting box on the sauna wall should be located within the minimum safety clearance specified for the sauna heater. The maximum height for the connection box is 500 mm from the floor (Picture 3. connection box placement place, page 24). If the connection box is located at 500 mm distance from the heater, the maximum height is 1000 mm from the floor.

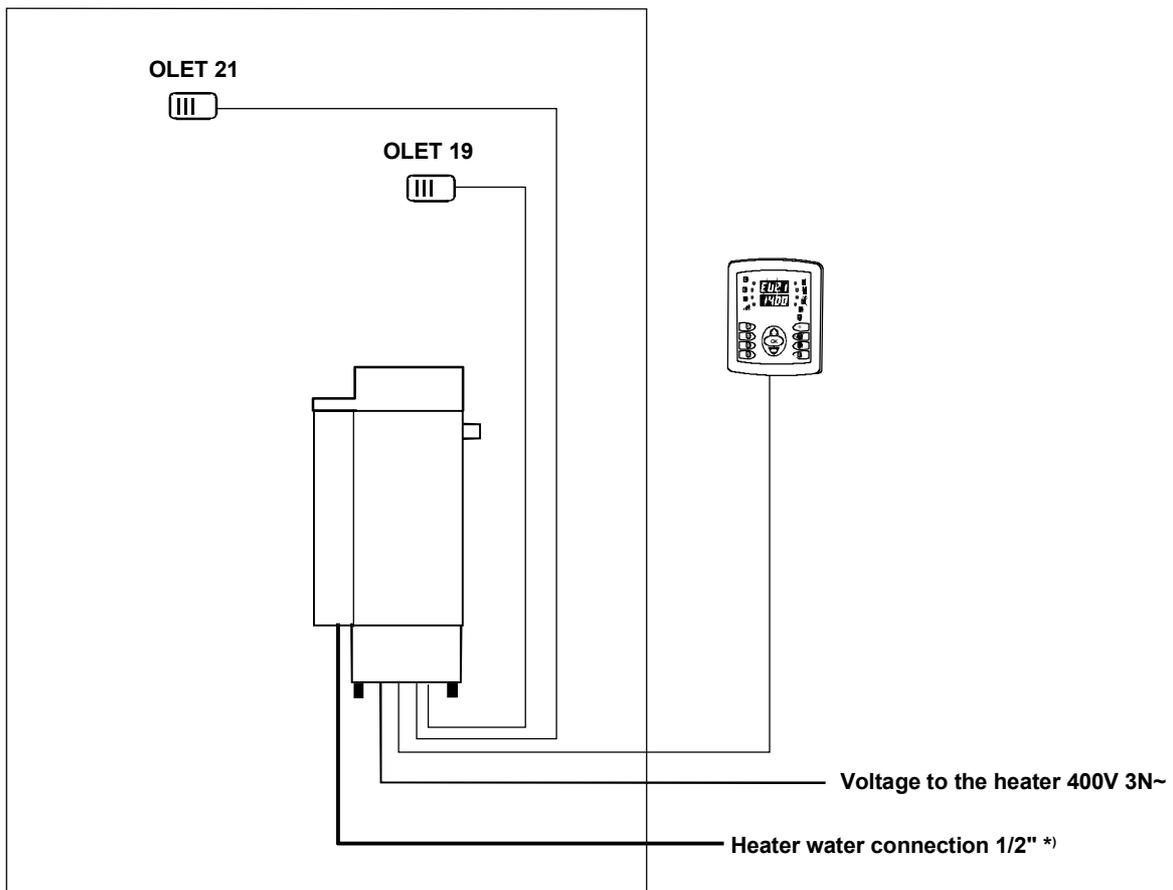
Sauna heater insulation resistance: The sauna heater heating elements may absorb moisture from air, e.g. during storage. This may cause bleeder currents. The moisture will be gone after a few heating sessions. Do not connect the heater power supply through a ground fault interrupter.

However, adhere to the effective electrical safety regulation when installing the sauna heater.

Table 2. Mains connection:

Output kW	Heater connection cable H07RN-F / 60245 IEC 66 400 – 415V 3N~ mm ²	Fuse A	Heater connection cable H07RN-F / 60245 IEC 66 230V 3~ mm ²	Fuse A	Heater connection cable H07RN-F / 60245 IEC 66 230–240V 1N~/2~ mm ²	Fuse A
6,3	5 x 1.5	3 x 10	4 x 2.5	3 x 16	3 x 6	35
8,0	5 x 2.5	3 x 16	4 x 6	3 x 25	3 x 6	35
9,0	5 x 2.5	3 x 16	4 x 6	3 x 25	-	-

3.5. Block diagram of the electric and HPAC connections



3.6. Electric heating toggle

Electric heating toggle applies to homes with an electric heating system.

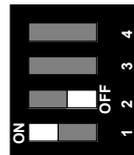
Sauna heater has a connection (marked 55) for controlling the electric heating toggle. Connector 55 and the heating elements are simultaneously live (230V).

3.7. Maximum setting for bathing time

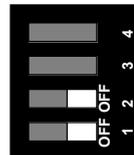
The bathing time set in the control centre may be limited, depending on the intended use of the heater. In apartment saunas the maximum bathing time is 6 hours (factory setting). In saunas intended for public and professional use, the maximum bathing time can be up to 24 hours.

There are four selectable maximum times in the control centre ; 2h, 6h, 12h and 23h. The selection is made with a 4-pin DIP-switch on the control centre circuit board. Switches 1 and 2 define the maximum bathing time according to the following pattern:

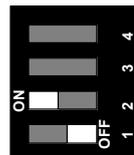
Operating time 2h – switch 1=ON, switch 2=OFF



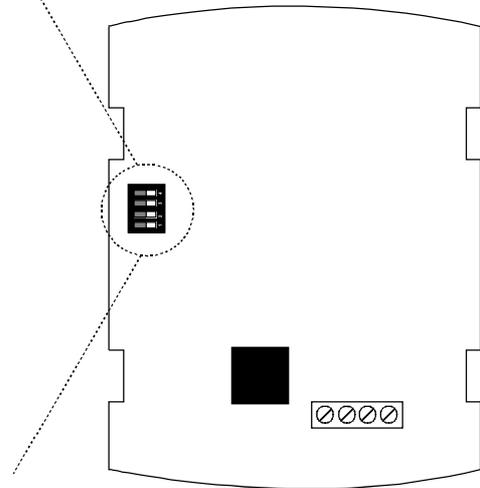
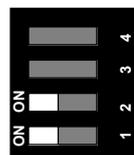
Operating time 6h – switch 1=OFF, switch 2=OFF



Operating time 12h – switch 1=OFF, switch 2=ON



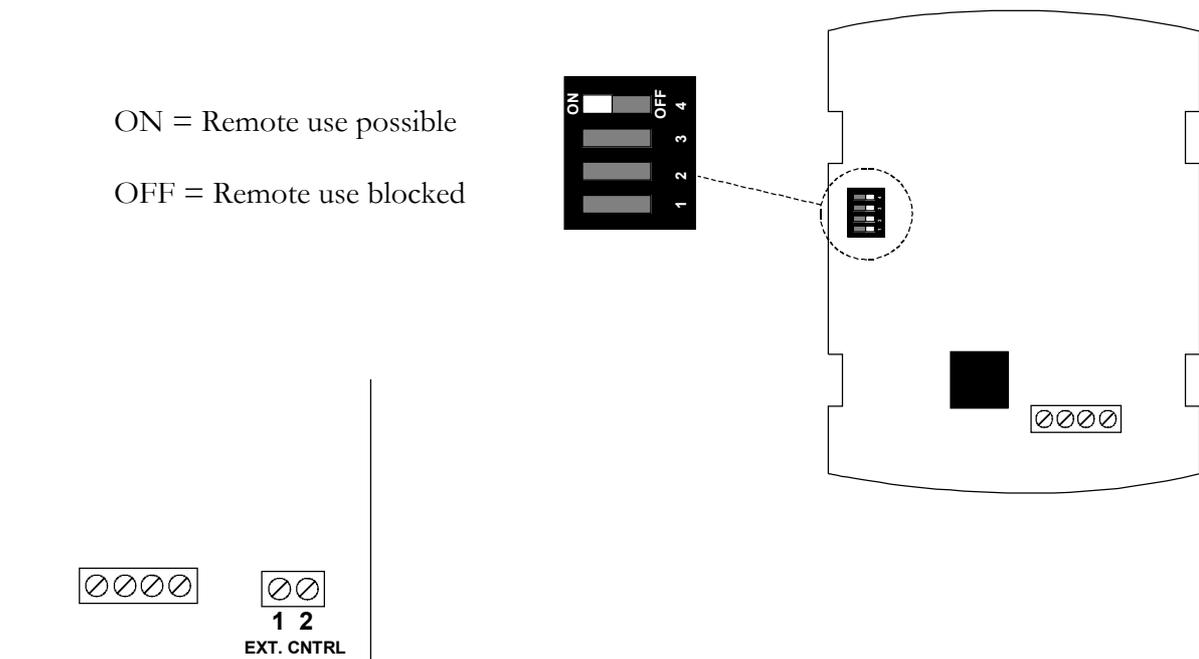
Operating time 23h – switch 1=ON, switch 2=ON



3.8. Sauna heater remote control

Before the sauna heater remote use is possible, the remote control feature must be activated from the control centre circuit board. The activation is done by setting the switch 4 to "ON" position (same switch group than in the maximum setting for bathing time). After that it is possible to use the "R" button to set remote control.

Connect a potential free connector to the sauna heater EXT. CNTRL connection (switch, relay or similar). When the connector is closed, the control centre starts the preselected bathing program. Opening the connector will automatically abort the remote control function and turn the sauna heater and control centre off.



3.9. Locating the connection box for connection cable in the sauna room

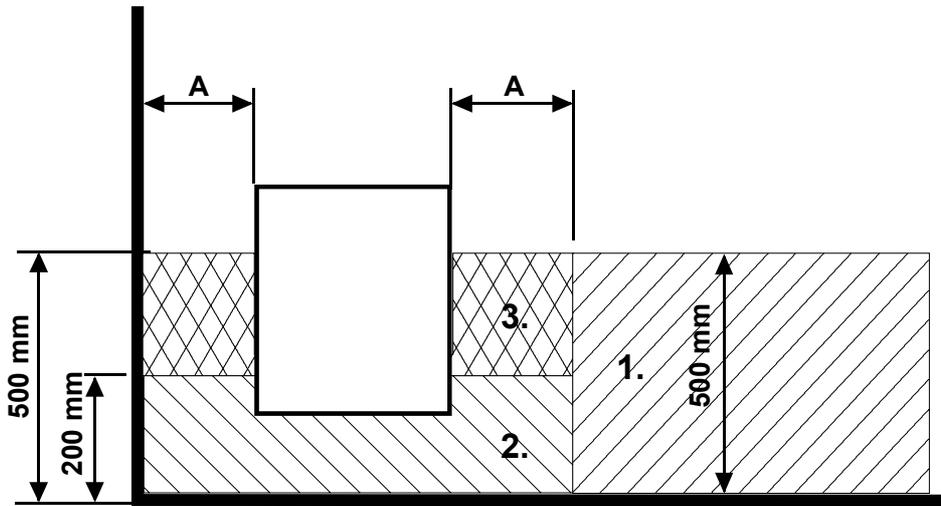


Image 3. Location for the connection box

A = Specified minimum safety clearance

1. Recommended location for the connection box
2. Silumin box recommended in this area.
3. This area should be avoided. Always use a silumin box.

In other areas, use a heat-resisting box (T 125 °C) and heat-resisting cables (T 170 °C). The connection box must be clear of obstacles. When installing the connection box to zones 2 or 3, refer to the instructions and regulations of the local energy supplier.

3.10. Control centre error messages

The control centre monitors continuously the sensors connected to it and the sauna heater. If any of those breaks down for some reason, the control centre aborts the heating of the sauna room and shows an error message on its display. The error message flashes on the control centre display and the buzzer sounds until the control centre is set to standby mode with the "Stop" button.

The reason for the fault must be found and fixed before restarting the sauna heater. Fault situations the control centre reacts:

- **Err 01**

Fault: Temperature limiter triggered in the sensor (OLET 19, above the sauna heater).

Check: The reason for the sauna heater overheating.
Continuity of the cable between the sensor and the sauna heater (pins 1 and 2).

- **Err 02**

Fault: Steamer temperature limiter triggered (in the sauna heater).

Check: Water level sensor in the water tank (is it calcified or damaged).
Water level sensor cable (damaged or shorted to the frame).

- **Err 03**

Fault: Serial communication between the sauna heater and the control centre is not working.

Check: The cable between the control centre and the sauna heater (continuity and connections).

- **Err 04**

Fault: Faulty humidity sensor (OLET 21).

Check: The cable between the sensor and the sauna heater (continuity and connections).

- **Err 05**

Fault: Faulty sensor (OLET 19).

Check: NTC resistor's resistance from pins 3 and 4 (in room temperature about 30 k Ω).

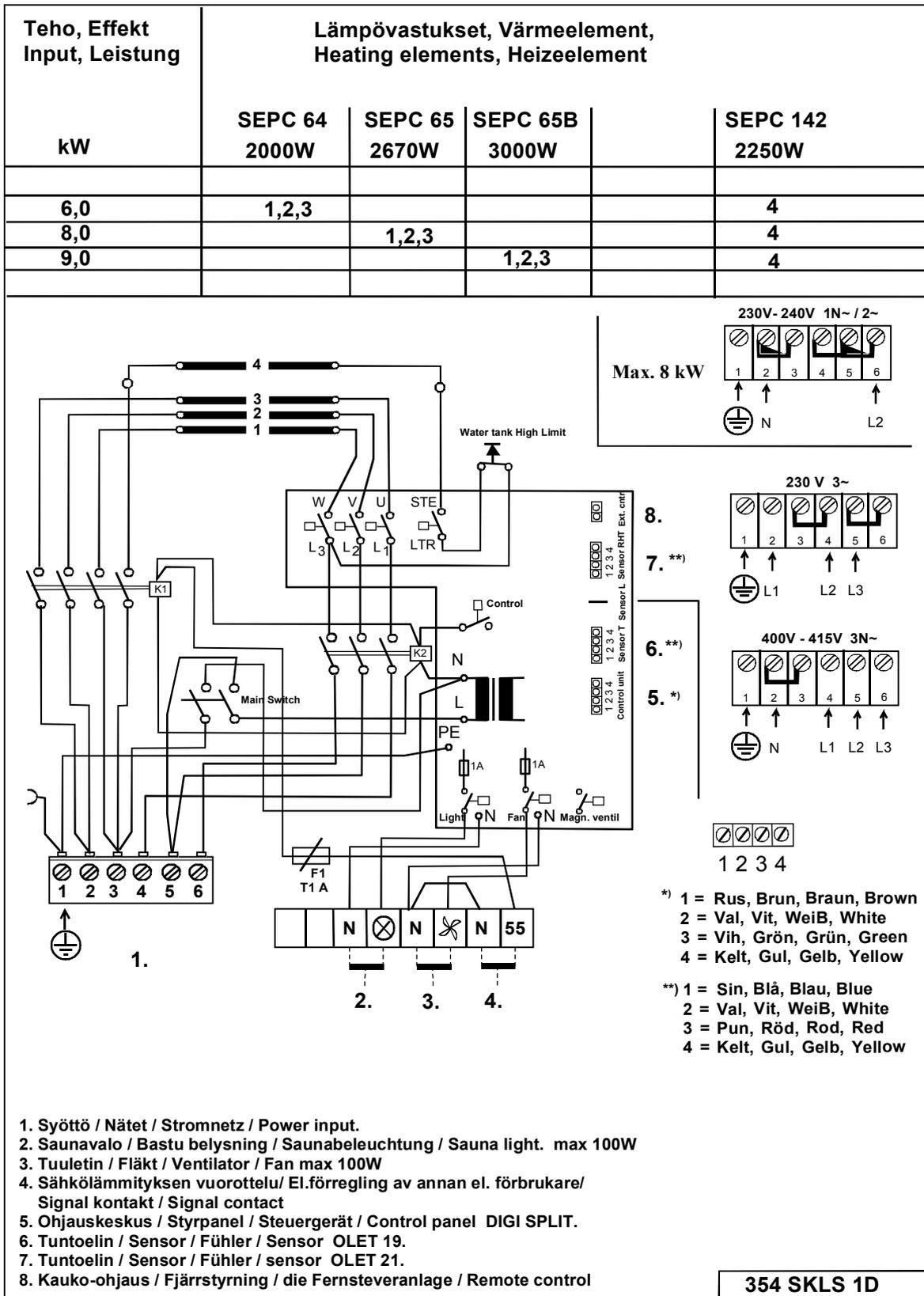
The cable between the sensor and the sauna heater (no break or short between pins 3 and 4).

- **Err 06**

Fault: Faulty humidity sensor NTC resistor (OLET 21).

Check: NTC resistor's resistance from pins 2 and 4 (in room temperature about 30 k Ω). The cable between the sensor and the sauna heater (no break or short between pins 2 and 4).

Wiring diagram



Spare parts for the FUSION electric sauna heater

	Product number	Product title	FUSION 60	FUSION 80	FUSION 90
1	4071002	Basic grate	1	1	1
2	5916316	Circuit board OLEA 85	1	1	1
3	001013	Control panel 1601-20 (RA-20)	1	1	1
4	6214032	Thermostat OLET 19	1	1	1
5	6214035	Thermostat OLET 21 (humidity)	1	1	1
6	7812550	Mains connector NLWD 1-1	1	1	1
7	7712000	Cable clamp	1	1	1
8	4316221	Heating element SEPC 64 2000W 230V	3	-	-
8	4316220	Heating element SEPC 65 2667W 230V	-	3	-
8	5207518	Resistor SEPC 65 B 3000W 230V	-	-	3
9	5207320	Resistor (tank) SEPD 142 2250W 230V	1	1	1
10	7811794	Sealing ring	6	6	6
11	7513002	Phillips screw M5x10	3	3	3
12	5320517	Contacto LC7 OKTA 5-1	1	1	1
13	7819507	Solenoid valve KM 01	1	1	1

Ympäristönsuojeluun liittyviä ohjeita

Tämän tuotteen käyttöänsä päätyttyä sitä ei saa hävittää normaalin talousjätteen mukana, vaan se on toimitettava sähkö- ja elektroniikkalaitteiden kierrätykseen tarkoitettuun keräyspisteeseen.

Symboli tuotteessa, käyttöohjeessa tai pakkauksessa tarkoittaa sitä.



Valmistusaineet ovat kierrätettävissä merkintänsä mukaan. Käytettyjen laitteiden uudelleenkäytöllä, materiaalien hyödyntämisellä tai muulla uudelleenkäytöllä teet arvokkaan teon ympäristömme hyväksi. Tuote palautetaan ilman kiuaskeleita ja verhoja kierrätyskeskukseen.

Tietoa kierrätyspaikoista saat kuntasivustamme palvelupisteestä.

Anvisningar för miljöskydd

Denna produkt får inte kastas med vanliga hushållssopor när den inte längre används. Istället ska den levereras till en återvinningsplats för elektriska och elektroniska apparater.

Symbolen på produkten, handboken eller förpackningen refererar till detta.



De olika materialen kan återvinnas enligt märkningen på dem. Genom att återanvända, nyttja materialen eller på annat sätt återanvända utsliten utrustning, bidrar du till att skydda vår miljö. Produkten returneras till återvinningscentralen utan bastust och eventuell täljstensmantel.

Vänligen kontakta de kommunala myndigheterna för att ta reda på var du hittar närmaste återvinningsplats.

Instructions for environmental protection

This product must not be disposed with normal household waste at the end of its life cycle. Instead, it should be delivered to a collecting place for the recycling of electrical and electronic devices.

The symbol on the product, the instruction manual or the package refers to this.



The materials can be recycled according to the markings on them. By reusing, utilizing the materials or by otherwise reusing old equipment, you make an important contribution for the protection of our environment. Please note that the product is returned to the recycling centre without any sauna rocks and soapstone cover.

Please contact the municipal administration with enquiries concerning the recycling place.

Hinweise zum Umweltschutz

Dieses Produkt darf am Ende seiner Lebensdauer nicht über den normalen Haushaltsabfall entsorgt werden, sondern muss an einem Sammelpunkt für das Recycling von elektrischen und elektronischen Geräten abgegeben werden.

Das Symbol auf dem Produkt, der Gebrauchsanleitung oder der Verpackung weist darauf hin.



Die Werkstoffe sind gemäß ihrer Kennzeichnung wiederverwertbar. Mit der Wiederverwendung, der stofflichen Verwertung oder anderen Formen der Verwertung von Altgeräten leisten Sie einen wichtigen Beitrag zum Schutze unserer Umwelt. Dieses Produkt soll ohne Steine und Specksteinmantel an dem Sammelpunkt für Recycling zurückgebracht werden.

Bitte erfragen Sie bei der Gemeindeverwaltung die zuständige Entsorgungsstelle.