

Operating and installation instructions **Fonda duo**

ELECTRIC SAUNA HEATER: Helo

0315-44-1204

0315-66-1204

0315-80-1204

CONTROL UNITS:

T2



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1. Quick instructions for sauna heater

1.1 Check before taking a sauna bath

1. that the condition of the sauna room is suitable for taking a sauna.
2. that doors and windows are closed
3. that the stones in the heater are recommended by the manufacturer, that the stones cover the heating elements and that the stones are piled sparsely.

NOTE! Ceramic stones must not be used.

The sauna bath is comfortable at a temperature of about 70 °C.

Rearrange the unit's stones at least once a year and replace crumbled stones. This enhances air circulation between the stones, extending the life of the heating elements.

Further information about sauna baths is available at: www.helo.fi

1.2 Using the heater's controls

The main switch is located in the base of the heater. The type plate shows the switch positions (0 I). See the instructions for the control unit in the "Using the Control Unit" section.

2. Information for users

Persons with reduced physical or mental capacity, disabilities, or little experience or knowledge of the equipment's use (e.g. children), should only operate the equipment under supervision or according to instructions from the person responsible for their safety.

Ensure that children do not play close to the sauna heater.

2.1 Sauna room

The walls and ceiling of the sauna room should be thermally well insulated. All surfaces that store heat, such as tiled and plastered surfaces, must be insulated. Wood paneling is recommended for the sauna room's walls and ceiling. If the sauna room's walls and ceiling have been clad with material that is highly heat-insulating (e.g. different types of decorative stones, standard glass etc.), it must be remembered that this prolongs the sauna's heating-up time, even though the sauna room is otherwise well insulated (see page 10, section 3 - Preparing for sauna heater installation).

2.2 Recommended sauna ventilation

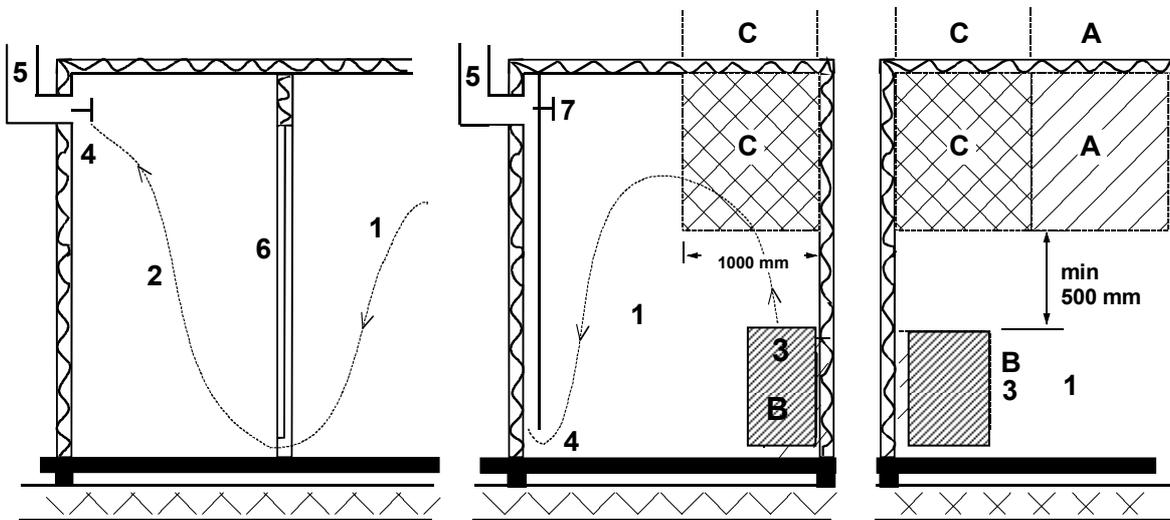


Illustration 1 Recommended ventilation in the sauna

- | | | |
|---|--------------------------|--------------------------|
| 1. Sauna room | 3. Electric sauna heater | 5. Flue or channel |
| 2. Bathroom | 4. Exhaust air valve | 6. The sauna room's door |
| 7. A ventilation valve can also be installed here which is kept closed while the sauna is heating up and while bathing. | | |

An inlet vent for fresh air can be positioned within area A. It must then be checked that the fresh air that enters does not interfere with (cools down) the heater's thermostat that is located near the ceiling.

Area B is used for intake of fresh air if the sauna room does not have mechanical ventilation. If this is the case the exhaust air valve must be positioned a minimum of 1 m higher than the inlet valve.

THE INTAKE VALVE FOR FRESH AIR MUST NOT BE POSITIONED WITHIN AREA C IF THE HEATER'S CONTROL THERMOSTAT IS ALSO LOCATED WITHIN AREA C.

2.3 Heating the sauna

Before turning the heater on: ensure that the sauna room is suitable for taking a sauna bath. When heated for the first time, the sauna heater may emit some odor. If this is the case, disconnect the sauna heater briefly, and air the room. Then turn the sauna heater on again.

Turn the heater on at the control panel, where you can adjust the temperature and the time.

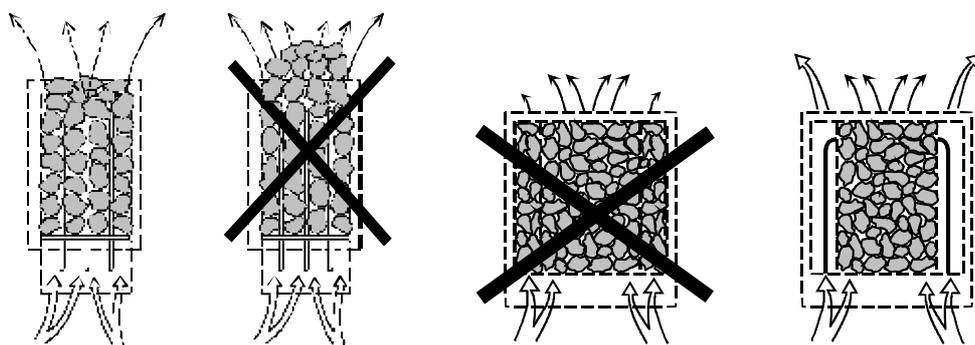
The heating of a sauna should be started roughly an hour before you plan to take a sauna bath, so that the stones have time to heat up properly and the air warms up evenly in the sauna room.

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

2.4 Sauna stones

Good quality sauna stones should meet the following requirements:

- The stones must withstand heat and heat variation caused by vaporization of the water thrown on the stones.
- The stones must be rinsed before use in order to avoid odor and dust.
- The stones must have an uneven surface so that the water "sticks" on the surface of the stones and evaporates more effectively.
- The stones must be sufficiently large (50–100 mm) to allow air to circulate between the stones. This extends the life of the heating elements.
- The stones must be piled sparsely so that air circulates as effectively as possible between the stones. The elements must not be wedged together nor wedged against the casing.
- The ventilation chambers on the sides of the stone compartment must not be filled with stones. Filled ventilation chambers will lead to slower heat-up time of the sauna room and could also cause the heater to overheat.
- The stones must be rearranged sufficiently often (at least once a year) so that small, crumbled stones can be removed and replaced with larger new stones.
- The stones must be piled in such a way as to cover the elements. However, do not pile the stones too high above the elements. Information about a suitable amount of stones is to be found in the table on page 12. Any smaller stones in the package must not be placed on the heater.
- The guarantee does not cover defects caused by smaller and too tightly stacked stones that impede the air circulation between the stones.
- Ceramic stones must not be used. Ceramic stones can cause damage to the heater that will not be covered by the guarantee.



2.5 Disconnecting electrical heating, terminal #55 (output)

The electric heating disconnecting applies to homes with an electric heating system.

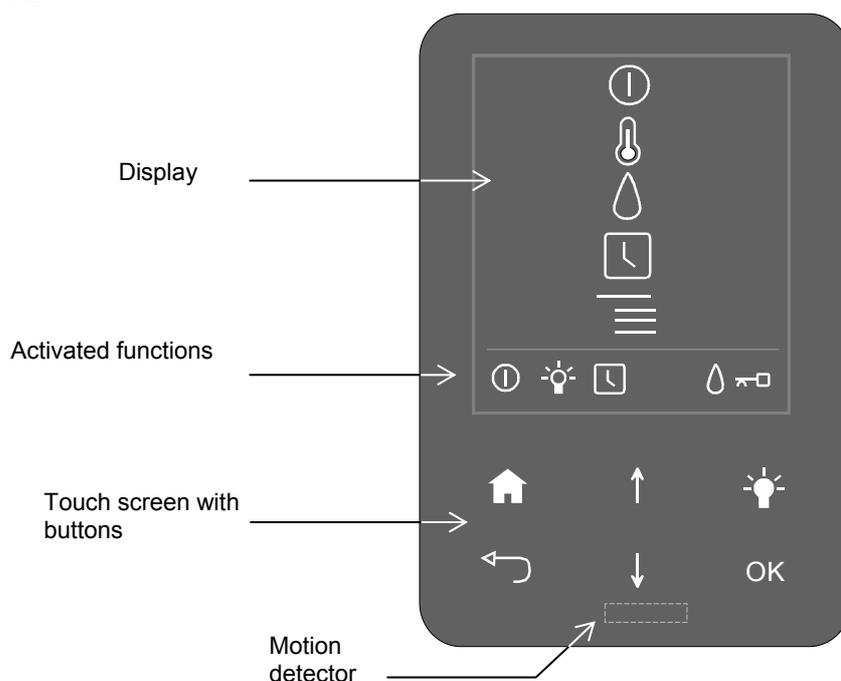
The sauna heater outputs 230-240V to terminal #55 when the heater is activated, i.e. this signal can be used to (partly) deactivate house heating when the sauna heater switches on the current to the heating elements. May be used in case the main fuses can't take the full load of a sauna heater and electric space heaters.

2.6 If the sauna heater does not heat up

If the sauna heater does not heat up, check that

- the current is switched on
- the heater's main fuses are intact
- that the control panel is not displaying an error message. If the control panel displays an error message read the operating instructions for the control panel.

2.7 Control unit T2



Meaning of the symbols on the screen:

-  Starting and stopping the heater
-  Setting the sauna room's temperature. Reference value 20–110 °C
-  Setting the sauna room's humidity. Reference value 0–10
-  Setting preselected time. It is possible to set the start time 0–24 hours in advance.
-  Settings menu. Option of setting language, time and other details.

Meaning of activated symbols:

The sauna heater is on / Drying of sauna room.



The lighting in the sauna room is on.



A preselected time has been set.



The water tank is full / Water in the water tank / The water tank is empty (flashes)



The button lock is on. Unlock by pressing the "HOME" and "RETURN" buttons simultaneously for about two seconds.

The buttons' functions:

Selection of function/approval of selection.



Activation of sauna light.



Move upwards in the menu/increase set value.



Move downwards in the menu/decrease set value.



"HOME" button. Return to the first page from the submenus.



"RETURN" button. Go back incrementally in the submenus.
Pressing the button on the first page displays temperature and time.

General information:

- The control unit must be installed outside the sauna room.
- The heater and the control is intended for private use only.
- The control unit is suitable for the following heater models:
 - SKCP - ... - DET
- The longest time for a sauna bath is 12 hours.
- Preselected time up to 24 hours.
- There is a motion detector in the control unit's front section. If the control unit does not detect motion, the screen saver starts in order to reduce energy consumption. Activated operations continue to function normally.
- The control unit is fitted with a button lock to prevent misuse.
- Always follow the fitting dimensions specified.
- The sauna heater must be connected to the mains by a qualified electrician and in compliance with current regulations.

NOTE! Ensure that the sauna room is ready for use before the heater is turned on.

2.8 Operating the control unit

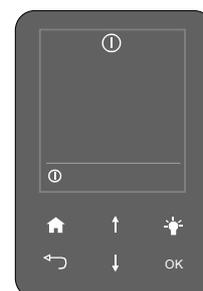
Resting mode:

When the control unit is in the resting mode its screen is blank. The screen is automatically activated when the control unit detects an object (e.g. a hand) closer than 5 cm from its front surface. When the object is removed the screen returns to save mode after the set time. The screen shutoff time can be set at between 10 and 60 seconds (see section: Settings - General information - Screen shutoff).

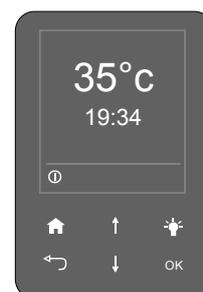


Starting the heater:

Start the heater by selecting the upper menu on the first page and pressing the "OK" button. The heater then starts immediately with the temperature and time for sauna bath that has been saved in the memory. Changing sauna temperature – see next chapter. The heater is on for the time defined in Settings - Service - Settings - Limit for bath time. However, it is possible to turn off the heater at any time by pressing the "OK" button again.



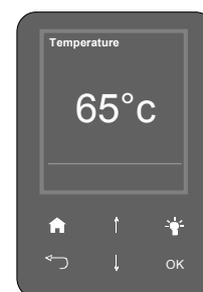
Pressing the "RETURN" button on the first page displays the time and the sauna room's temperature.



Setting sauna temperature:

You can set the desired sauna temperature by selecting the menu that is second from top on the first page and pressing the "OK" button. Change the temperature with the "Arrow up" or "Arrow down" buttons. Confirm the change with the "OK" button.

You can restrict the adjustable temperature in Settings - Service - Settings - Temperature limit.



Setting the sauna room's humidity:

You can set the increased humidity that the sauna heater produces by selecting the third menu on the first page.

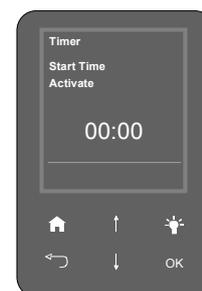
You can control the humidity on a 0 to 10 scale, where 0 indicates no steam and 10 indicates maximum steam production. The sauna room's actual humidity depends on room size and temperature.



Setting preselected time.

You can set a preselected time by selecting the fourth menu on the front page. The preselected time is the time when you want the heater to start heating. A symbol in the lower part of the display will indicate that a preselected time has been set.

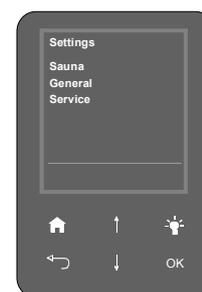
To cancel the preselected time function, re-enter into the timer menu and select "Deactivate"



Settings for control:

In the fifth menu on the front page, you can manually access the settings for the control unit that include, for instance, Sauna settings, General settings and Service settings. The Service settings have been protected with a PIN code (124) that prevents unintentional changes to important settings.

For more information about the settings in this menu, see section 3.9 at the end of this manual.



2.9 The sauna heater's water tank

Filling the tank

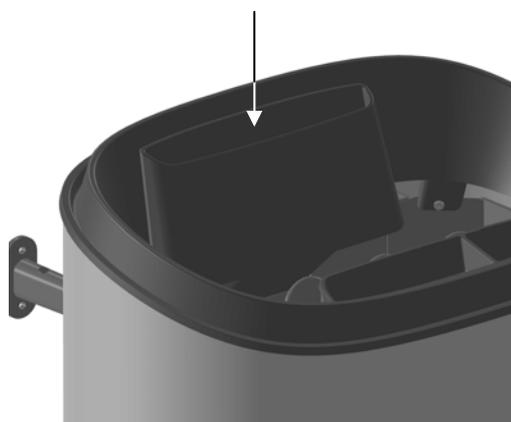
Fill the sauna heater's water tank using the steam nozzle. The water tank holds about five litres of water. If the tank is empty when the sauna heater starts, the heater emits three short beeps. A drop of water indicating the steam function will flash at the same time in the control device.

The sauna heater also emits a beep if the tank is full after it has been filled. The sauna heater must always be in standby mode (main power switch in position I) when you fill the water tank. This is to prevent the tank overflowing.

NOTE!

Do not pour fragrance oil or other chemicals (except lime remover) in the water tank. Use the removable aroma cup at the front of the sauna heater for this purpose.

Water refill

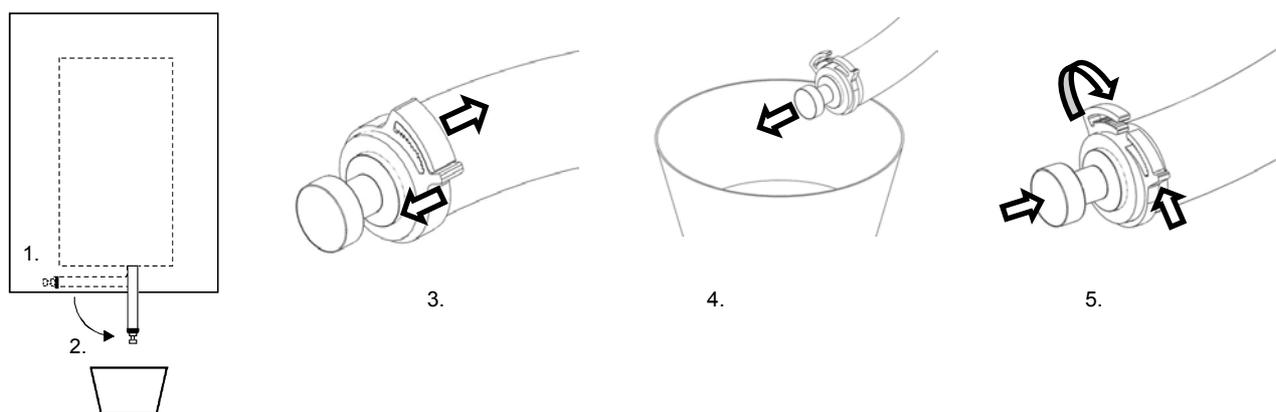


Emptying the tank

Empty the water tank after each time it is used. This action reduces the risk of any limescale deposits which over time accumulate on the inside of the tank. Empty the tank as follows (see illustration).

As the drainage hose and the water in the tank gets scalding hot during use of the heater it is safest to drain the tank after the heater has cooled down!

1. Remove the water tank's drainage hose from its support (located behind the sauna heater, underneath the water tank).
2. Take out the hose from under the sauna heater.
3. Loosen the hose clamp by sliding the two jaws in opposite direction to each other.
4. Place a container that holds at least 5 liters under the hose and remove the plug.
5. After the water has drained from the tank reattach the plug and tighten the hose clamp by pressing the two jaws together. Finally place the hose back on its support.



3. Preparing for sauna heater installation

THE PERSON WHO INSTALLS THE HEATER SHOULD LEAVE THESE INSTRUCTIONS IN THE SAME PLACE FOR SUBSEQUENT USERS.

Check the following before installing the sauna heater:

- The heater's output (kW) in relation to the sauna room's volume (m³). The tables on page 12 contain information about the recommended dimensions for the sauna heater's output. The minimum and maximum volume must not be exceeded.
- The sauna room height must be at least 1900 mm.
- A masonry wall without heat insulation increases the preheating time. Each square meter of plastered ceiling or wall surface adds 1,2 m³ to the sauna room's volume.
- Check table 1 on page 11 for the size of fuse (A) and power cable (mm²) suitable for the heater.
- Check that the safety clearance around the sauna heater is sufficient.
- There must be sufficient room, i.e. so-called maintenance access around the sauna heater's control devices. The doorway can also be regarded as a maintenance access.

3.1. Installing the heater

Note! The installation template is printed on the lid of the sauna heater box.

The sauna heater is installed in the sauna room according to the safety clearance on page 12. A thin panel is not sufficient as a mounting base; the base must be strengthened with a board behind the panel. The minimum distance specified on page 12 must be observed even if the wall materials are fireproof.

An optional stand is available for floor installation. The sauna heater must be fixed to the wall using the upper fasteners even if the stand is used. For more detailed instructions, see page 13, paragraph 3.5.

Walls and ceiling must not be clad with a simple protective cladding such as fiber-reinforced cement board, as it can constitute a fire hazard.

Only one sauna heater is to be installed in the sauna room.

3.2. Connecting the sauna heater to the mains

The sauna heater must be connected to the mains by a qualified electrician and in compliance with current regulations. The electric sauna heater is semi-permanently connected to the mains. Use H07RN-F (60245 IEC 66) cables, or alternatively an equivalent or higher quality cable. Other cables in the heater (to the signal lamp and the electric heating's cross connector) must also be of an equivalent type. PVC-insulated cables must not be used as connection cables.

A multi pole cable (e.g. 7-pole) can also be used as a connecting cable when 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 main fuse.

The junction box on the sauna wall should be located within the minimum safety clearance specified for the sauna heater. The maximum height for the junction box is 500 mm from the floor (see illustration on page XX). If the junction box is located more than 500 mm from the heater, the maximum height is 1,000 mm from the floor.

The sauna heater's insulation resistance: Moisture can build up on the sauna heater's fuses during storage. This may cause current leakage. The moisture is dispelled when the sauna heater has been heated up a few times. Do not connect the heater's power outlet to an earth fault breaker. Applicable electrical safety regulations must be followed when installing the heater.

Output kW	The heater's connection cable H07RN-F/ 60245 IEC 66 mm ² 400–415 V 3N~	Fuse A	The heater's connection cable H07RN-F/ 60245 IEC 66 mm ² 230 V 3~	Fuse A	The heater's connection cable H07RN-F/ 60245 IEC 66 mm ² 230–240 V 1N~ / 2~	Fuse A
4,4	4 x 1.5 (2N~)	2 x 10	-----	-----	3 x 6.0	1 x 20 / 2 x 10
6,6	5 x 1.5	3 x 10	4 x 6	3 x 20	3 x 6.0	1 x 35 / 2 x 25
8,0	5 x 2.5	3 x 16	4 x 6	3 x 25	3 x 6.0	1 x 35 / 2 x 25

Table 1 Connection cable and fuses

3.3. Installation of control unit and sensor

The control unit has been connected electrically by a cable to the sauna heater. The control unit must be installed outside the sauna room.

The sensor is mounted to the sauna wall, directly on the center line of the sauna heater, 40 mm from the ceiling.

NOTE!

If the wall on which the sensor is to be installed is made of highly heat insulating material (e.g. concrete, brick etc.) or if the wall is made of toughened glass, the sensor can be installed directly above the heater (on the heater's center line viewed from both the front and from the side).

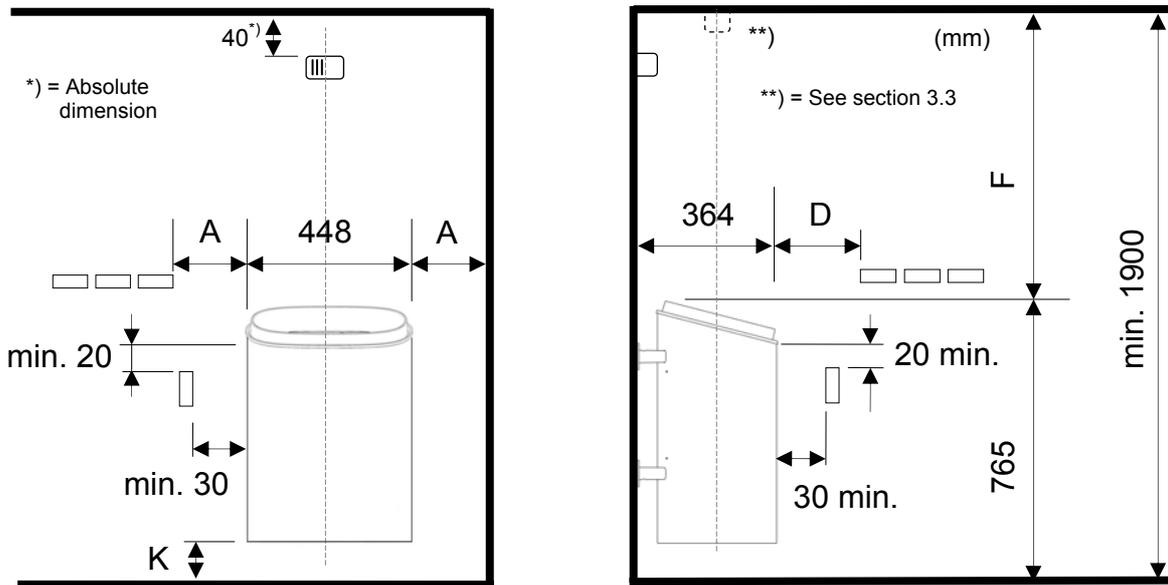
Deviations from the fitting dimensions specified can lead to a risk of fire!

The temperature limiter in the sensor interrupts the heater's temperature output if the heater's temperature increases to such an extent that it represents a danger for the sauna's wooden parts. When the temperature has fallen, the limiter can be reset by pressing the reset button.

Before resetting you must always investigate why the temperature limiter was triggered!

3.4. The sauna heater's safety clearances

Safety clearance

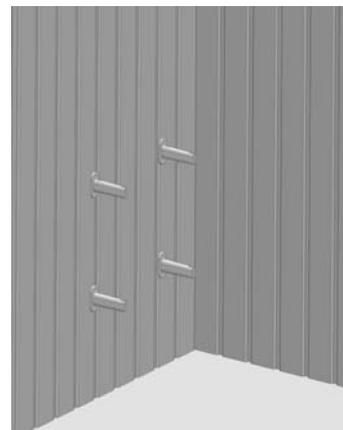


Output	Sauna room		The heater's min. clearance				Stones
	Volume	Height	From sides	From front	To ceiling	To floor	
kW	m ³	mm	A	D	F	K	approx. kg
4,4	4-6	1900	50	50	1135	100	20
6,6	5-9	1900	50	50	1135	100	20
8,0	8-12	1900	50	50	1135	100	20

3.5. Installation steps

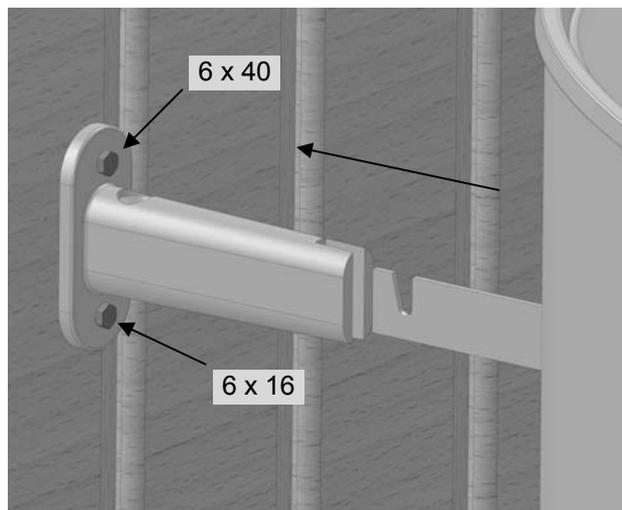
1. Secure the wall mounts in the wall with the accompanying screws (6 x 40 and 6 x 16). Note the heater's minimum clearance. If the sauna heater is going to be fitted with legs you don't need to attach the bottom brackets.

The top wall mounts should be installed so that the holes in the heater's locking screws are upwards. The bottom wall mounts can be turned so that the holes are downward as no locking screws will be screwed into them.



2. Then install the sauna heater so that the upper supporting iron is touching the groove in the wall mount and move the heater backwards as far as it goes (towards the wall).

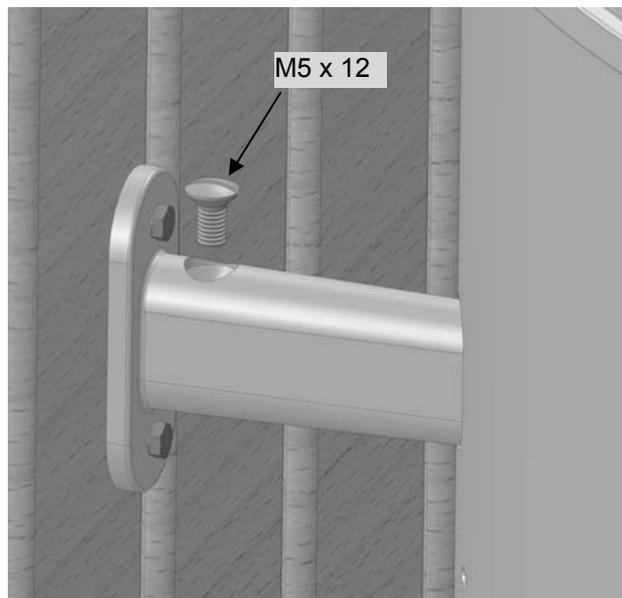
It might be necessary to slightly loosen the wall mount's screws so that it is easier to locate the supporting iron on the wall brackets.



3. If you loosened the wall mounts' screws in the previous point, you must tighten them again.

Then place the locking screws in the holes in the upper wall mounts and fully tighten them.

Ensure that the heater has been locked in place by trying to move it forwards and backwards.



3.6. Locating the junction box for the connection cable in the sauna

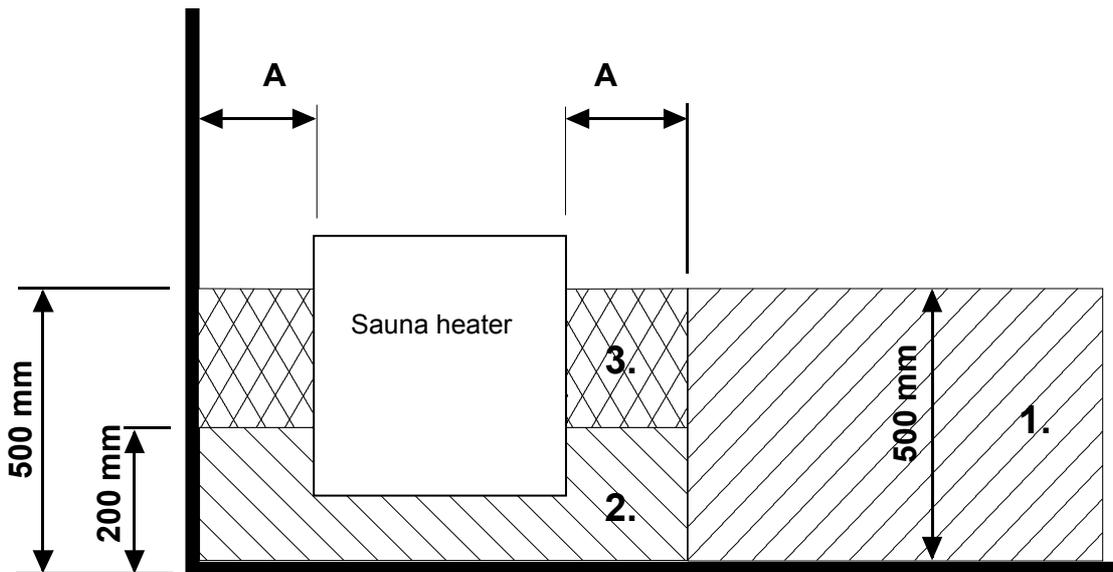


Illustration 2 Junction box location

A = Minimum safety clearance

1. Recommended location for junction box.
2. A metal junction box should be used within this area.
3. This area should be avoided and a metal junction box must always be used.

Heat resistant boxes (T 125 °C) and heat resistant cables (T 170 °C) must be used within other areas. The junction box must have free access. If the box is to be positioned within areas 2 and 3, refer to the local energy supplier's instructions and regulations.

3.7. Outline diagram when T2 is control unit

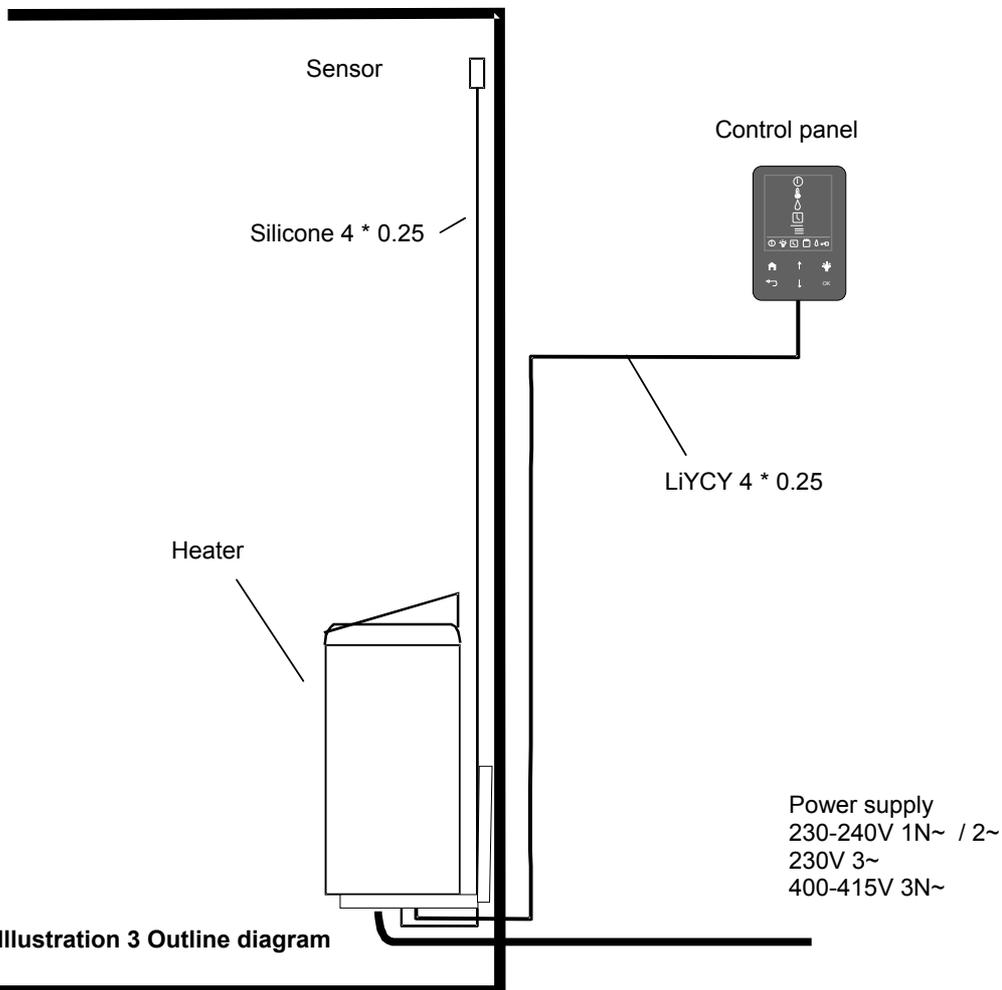
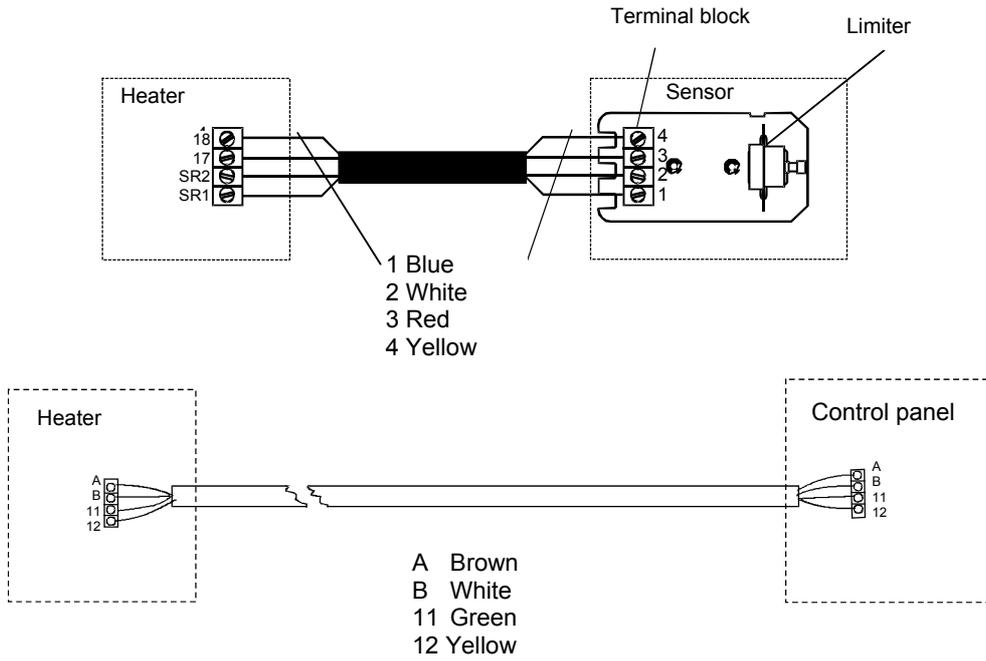


Illustration 3 Outline diagram

3.8. Wiring diagram

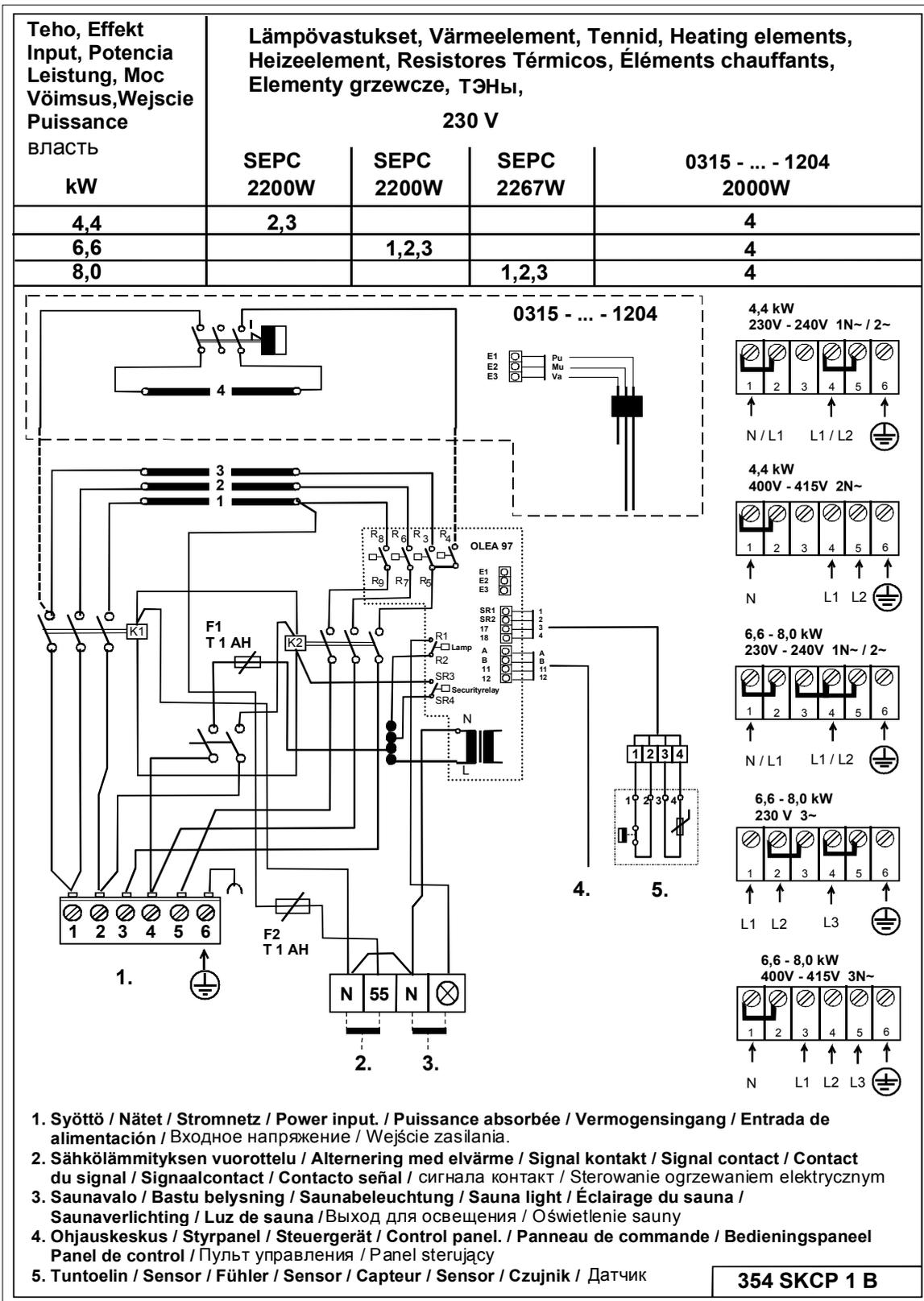


Illustration 4 Wiring diagram

3.9 The settings menu

The setting menu includes the following submenus:

Sauna

- Bath Type Priority
 - Default Priority
 - Sauna Priority
 - Steam Priority
- Standby
 - Temperature drop at standby. Range of setting is 0 – 20°C (32 – 68°F). The control panel lowers the sauna room temperature by the set value when the heater enters standby-mode.

General

- Set Time
 - Set the time on the control panel with the Arrow-up / Arrow-down buttons. Accept with OK-button.
- Set Date
 - Set the date on the control panel. The date form is year-month-day
- Region
 - Language. There are 10 different languages to choose from
 - Temperature Scale. Select the preferred temperature scale, either Celsius (°C) or Fahrenheit (°F).
 - Time Format. Select the preferred time format, either 12 hour or 24 hour time format.
- Sleep Delay
 - The time the control panel waits if no button has been pressed before it shuts down the display. Range of setting is 10 s – 5 min.
- Key lock
 - Automatic Key lock. The key lock is activated after the delay set in this menu if no key is pressed. Range of setting is 15 – 60 s. To open the key lock press the “Home” and “Return” buttons simultaneously for approx. 2 seconds.
 - Code lock. The control panel can be locked with a four digit code. The code lock will only be activated if the automatic key lock also is activated. When opening the key lock the code will be requested.
 - Set Code. Set the code to be used with the code lock. Factory setting is 0000.
- Vibration
 - With this setting the control panel can give a tactile feedback in the form of vibration when a key is pressed.
- About
 - The soft- and hardware versions can be found under this menu

Service

Attn.! The service menu is intended only for persons that are in charge of installation and / or maintenance of the unit. Changing the settings in this menu without the proper knowledge could lead to unwanted behavior of the unit. Because of this a security code (124) is needed to access this menu. The security code cannot be changed.

- Settings
 - Bath time Limit. With this setting it is possible to set the maximum bath time the end user can request. Range of setting is 1 min – 12 hours. Attn.! In private use the maximum time is 6 hours.
 - Standby Bath Time Limit. With this setting it is possible to set the maximum standby bath time the end user can request. Range of setting is 1 min – 12 hours
 - Temperature Limit. With this setting it is possible to set the maximum temperature the end user can request. Range of setting is 20 – 110°C (68-230°F)
 - Filtered Temperature. With this setting it is possible to choose between a realtime (No) or a filtered (Yes) temperature display. The realtime display shows even the smallest temperature fluctuations in the display. The filtered display evens out the measured temperature thus giving a less “restless” display
- Diagnostics
 - Relay Control. With this function individual relays can be operated, for example when troubleshooting the unit.
 - System Status. This function gives the system status such as temperature, runtime counter and soft- and hardware versions.
 - Heaternet Node List. This function shows the units that are connected to the system (control panel, heater,etc.)
 - Error Log. Faults and error situations are logged under this menu.
- Factory Reset
 - This function resets the unit to its pre-installation state. The function is protected with a security code (421), which cannot be changed.

4. ROHS

Ympäristönsuojeluun liittyviä ohjeita

Tämän tuotteen käyttöiän 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 kiuaskiviä ja verhoukiviä kierrätyskeskukseen.

Tietoa kierrätyspaikoista saat kuntasi 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 bastusten 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, utilising 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.