

LÖYLY FINLAND - LOITSU ELECTRIC SAUNA STOVE MANUAL



Congratulations on acquiring a top-quality Finnish electric sauna stove.

SAFETY INSTRUCTIONS

LOITSU 6-9 kW

Follow these instructions before installing the stove or using the sauna.

FOR THE USER:

- This product is not suitable for individuals (e.g. children) who have no prior experience with using a sauna stove, or for individuals with mental or physical limitations. Only a person familiar with the operation of the stove should use it.
- Children are not allowed to clean the stove or carry out maintenance tasks on it without supervision.
- Never let children play with the stove.
- Do not use the stove as a grill.
- Do not cover the stove. It poses a fire hazard.
- Do not dry clothes on the stove. It poses a fire hazard.
- Do not sit on the stove. It is extremely hot and can cause burns.
- Do not use chlorinated water (e.g. from a swimming or hot tub), seawater, or water containing lime. It will destroy the stove.
- After installing the stove, turn it on for 30 minutes before using the sauna. Do not stay inside the sauna during this initial heating. See page 9, heating the sauna room.
- Ensure that there are no flammable materials on the stove before activating the timer.

FOR THE INSTALLER:

- Only an authorized electrician may connect and repair the stove.
- When installing the stove, check the required safety clearances from the manufacturer's instructions. See page 4.
- Electronic detectors and other sensors should be installed so that the fresh air entering the sauna does not affect their operation.
- If the stove is for public use and has a weekly timer, or if the stove can be turned on remotely, an independent door sensor must be installed on the sauna door. This sensor will turn off all pre-timer functions when the stove is in standby mode, and the sauna door is opened.
- Before installing the stove, check the manufacturer's indicated maximum and minimum sauna sizes. See page 12.
- Ensure that the sauna has adequate and proper ventilation. See page 8.

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INSTALLING THE STOVE

The stove can be placed in any sauna, but the given minimum distances must be observed for safety reasons. Follow the given volume measurements (see page 13, TECHNICAL DETAILS). The stove must not be installed in a recess.

When turned on, the stove can be scorching hot. To avoid possible contact with the stove, it is recommended that you also install a stove guard.

For connecting the stove, a H07RN-F cable or equivalent should be used. Only a certified electrician is allowed to make the stove connections to ensure safety and reliability. Incorrect connections can cause short circuits and fire hazards (See page 7, Connection diagram).

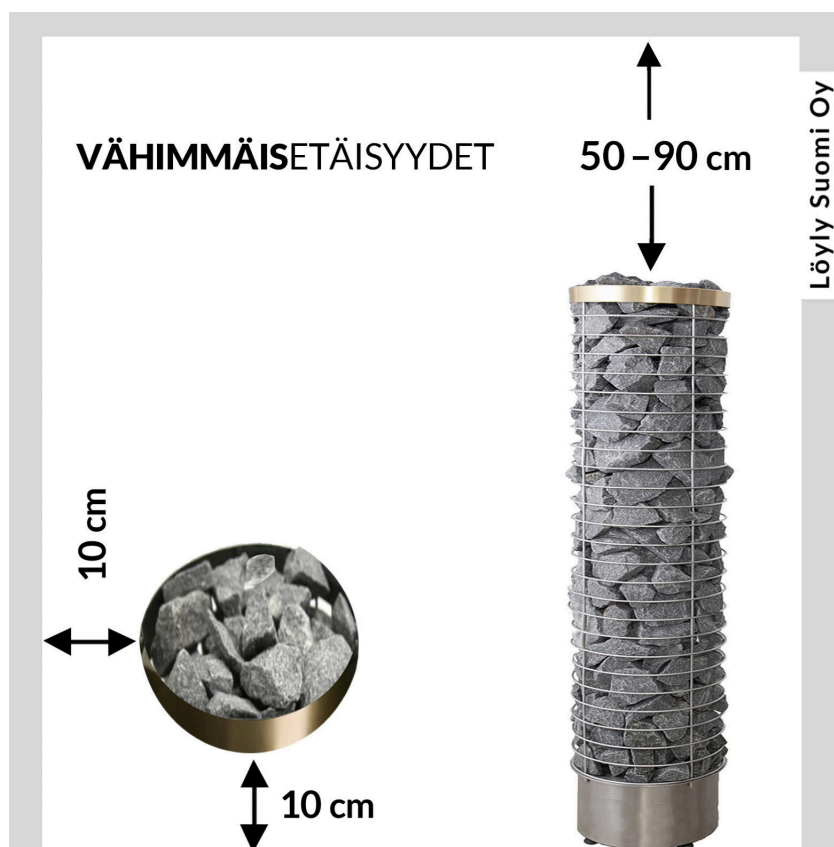
NOTE! If you attach the stove to the wall, make sure the wall is strong enough. Strengthen the paneling if necessary.

Minimum distances to combustible parts (cm)

Loitsu 6 – 9 kW distance to the ceiling 60 cm

Loitsu 12 kW distance to the ceiling 70 cm

Loitsu 16.5 – 24 kW distance to the ceiling 80 cm.



STOVE STONES

The purpose of stove stones is to store thermal energy to ensure efficient vaporization of sauna water. To ensure the correct operation of the stove, the stones should be checked and replaced at least every two years or after approximately 500 hours of use. The stone compartment of the stove is cleaned of crumbled stones, and new stones are stacked upright according to instructions. There should be air gaps between the stones and the heaters to allow efficient air circulation. This way, the sauna and the stove stones heat up efficiently. When stones break and compress, the air gaps get blocked, and the stove's operation deteriorates.

When adding stones to the stove, it's advisable to use cut-resistant gloves. The required number of stones is indicated in the stove's technical information (See page 13). For 6 kW stoves, the minimum amount is 120 kg, and for 9 kW stoves, it's 150 kg.

For stoves used in institutions or professionally, the stones should be re-stacked at least three times a year and replaced at least once a year. We recommend using Kerkes or other manufacturers' ceramic stones for institutional use.

NOTE! Do not use the stove without stove stones, as it can cause a fire hazard. Only use stones intended for electric stove use (olivine or olivine diabase). Using the wrong stones can cause premature failure of the heating elements.

STACKING STONES IN THE STOVE

It's a good idea to wash the stones before stacking to remove any dirt and dust. When stacking stones, do not block the circulation of air flowing through the stove, as this leads to overheating of the heating elements and a significant reduction in their lifespan. Large stones should never be forcibly inserted between heating elements. Stones should be stacked upright so that the elements do not bend outward or inward, but remain straight and are as covered as possible when viewed from the outside. Elements should not touch each other as a result of stone stacking. If the elements are in contact with each other, their lifespan is significantly shortened. Use the mounting plate that came with the stove to help keep the elements in the correct position relative to each other. The tool should not be left among the stones; its sole purpose is to help keep the elements in the right position when placing the stones. Place the stones evenly both on the elements themselves and between two different elements so that the stones touch the elements as much as possible.

Stones or pieces of stones smaller than 35 mm in diameter should not be placed in the stove, as they impede air circulation and can cause overheating of the heating elements.

NOTE! The warranty does not cover breakage of the stove's heating elements caused by the use of the wrong type of stone or overheating caused by incorrect stacking or the resulting mechanical damage.

Before adding stones to the stove, test the functionality of the stove. Turn on the stove for a moment; all elements should heat up.

CONTROL KNOBS / THERMOSTAT

The temperature of the sauna is adjusted by turning the thermostat switch. The thermostat maintains the chosen temperature level.

If the stove overheats, the temperature limiter will automatically turn off the power, even if the timer is on. Determine why the stove overheated. The reasons might include stones placed too densely, the location of the stove, or incorrect ventilation. Rectify the issue before using the stove again. The reset button hole is next to the temperature knob, and it should be pressed with a small object until a clear click is heard.



TIMER

The timer has a 1–8 (white numbers) hour pre-selection time and 1–4 (pink numbers) hour operating time.

If you want to start the stove immediately, turn the knob to any time between 1–4 hours. The stove will be on for the desired time.

To schedule the stove's operation, turn the knob to any time between 1–8 hours. After the desired number of hours has passed, the stove will turn on for four hours unless it is turned off earlier.

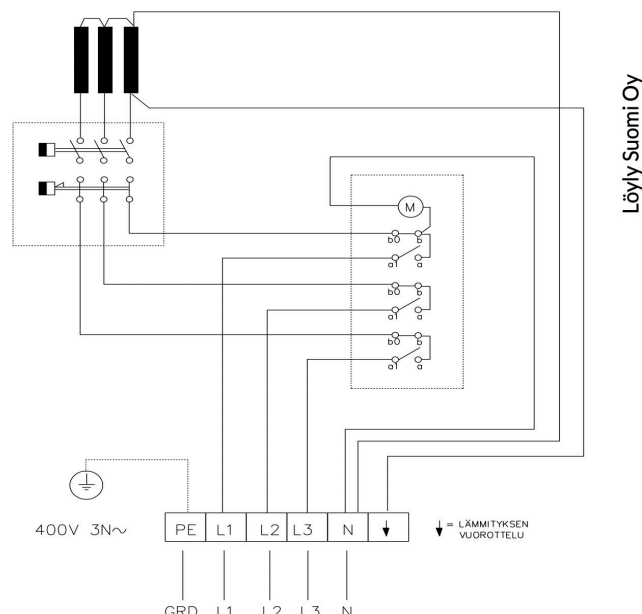


SENSOR PLACEMENT

If your stove has a separate control center, the overheat-preventing temperature sensor must be installed on the ceiling, directly above the center of the stove when viewed from above, even if the control center's user manual might say otherwise. If the temperature sensor is mounted on the wall above the stove, it poses a risk of overheating the stove.

The sensor should also not be installed less than one meter away from ventilation vents.

Do not install the temperature sensor less than one meter from an undirected air vent or less than 0.5 meters from an outward-directed air vent.



OVERHEATING PROTECTION RESET

Applicable only to models with a built-in control center.

Reset the temperature limiter by pressing the reset button.

If the stove overheats, the temperature limiter will automatically cut off the power, even if the timer is on.



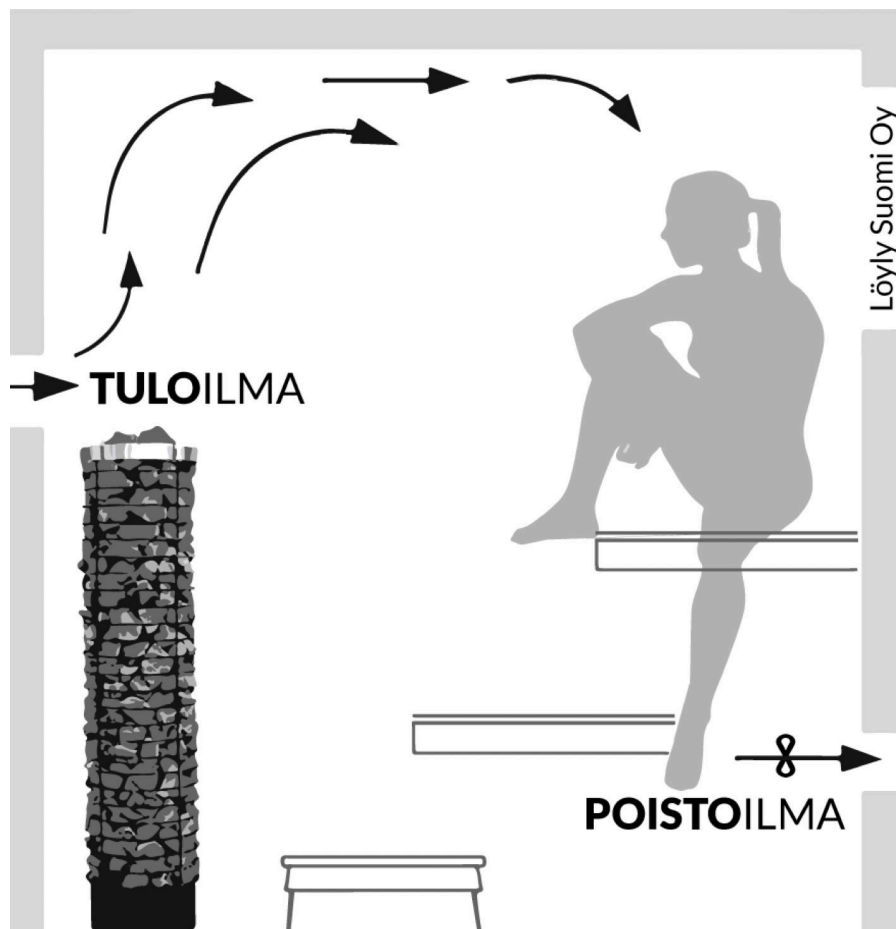
Determine the reason for the stove's overheating. The cause may be due to too densely placed sauna stones, the position of the stove, or incorrect ventilation. The stones should prevent a direct view of the glowing-red heating elements to the sensor. If the stove overheats, rectify the problem before using the stove again. The reset button is located below the thermostat switch.

SAUNA VENTILATION

For a pleasant experience in the sauna, there should be a suitable mix of hot and fresh air. The purpose of ventilation is to circulate the air around the stove to the farthest corner of the sauna. The positions of the intake and exhaust air vents vary depending on the design of the sauna and the owner's preferences.

The intake air vent can be installed on the wall directly below the stove. When using mechanical ventilation, the intake air vent can be installed at a minimum height of 60 cm above the stove or on the ceiling above the stove. With this setup, heavy cold air coming from outside mixes with the light, hot air from the stove, providing bathers with fresh air.

The exhaust air vent should be placed diagonally opposite the intake air vent, preferably under the benches and as far away from the fresh air opening as possible. It can be installed close to the floor, channeled through a pipe to the exhaust vent on the roof, or directed under the door to an exhaust vent in the bathroom. In this case, the gap at the bottom of the sauna door must be at least 5 cm, and it would be good to have mechanical ventilation in the bathroom. The size of the exhaust air vent should be twice that of the intake air vent.



HEATING THE SAUNA ROOM

When choosing the power of the heater, it must be taken into account that if there is one square meter (m²) of uninsulated wall surface in the sauna (e.g., glass door, brick or tiled wall), approximately 1.2 cubic meters (m³) should be added to the sauna's volume.

Formation of smoke and odor on the first heating

Unused heating elements might have residue from the manufacturing processes. These can evaporate when the heater is heated for the first time. The evaporation of these residues might produce smoke and an unpleasant odor. Breathing in the smoke can be harmful to health.

Follow these steps when heating the heater for the first time or when changing its heating elements. This will help you avoid potentially harmful fumes when heating new elements for the first time:

1. Set the heater to the highest possible temperature.
2. Heat the heater for half an hour. DO NOT stay in the sauna during this time.
3. Allow the sauna room to ventilate thoroughly after the first heating.
4. If on the next heating, the heater doesn't produce smoke or odor, you can start using the sauna. If there's still smoke or odor, exit the sauna immediately and repeat steps 1-4.

Always check before turning on the heater that there is nothing flammable on or within its protective distances. Ensure that the sauna's ventilation is sufficient and appropriate. A correctly sized heater will heat the sauna room in about an hour. The temperature in the sauna should then be about +50 – +70 °C. Factors such as the heater model used, the size of the sauna room, ventilation, and user preferences affect the temperature in the sauna room. An overly powerful heater heats the sauna too quickly, so the stones don't get warm enough. As a result, most of the steam water flows directly through the heater. If the heater is underpowered for the sauna room, it will take more time to heat the sauna.

SAUNA MAINTENANCE

AT LEAST 1-2 TIMES A YEAR OR AS NEEDED:

▲ Check the condition of the stones by removing them. Clean the heater's bottom from stone dust and debris. Restack the stones and replace any that are in poor condition or crumbling.

▲ When changing the stones, also inspect the heating elements. If there are cracks in the elements or if they are bent, replace all the elements at once. Never replace the elements individually.

▲ Wash the sauna surfaces with warm water and a general cleaning agent. Use a soft brush for cleaning. Wash the benches, floor, ceiling, and walls. Do not use cleaning agents that contain ammonia or chlorine on wooden surfaces. Rinse off the cleaning agent with cold water. Ventilate the sauna well. If desired, you can treat the benches with a protective agent

specifically designed for sauna surfaces. Read the instructions carefully before using the product.

▲ If there are white lime deposits or dirt accumulated on the heater, clean it with a mild soapy water. You can also use citric acid purchased from a pharmacy. Read the instructions for the citric acid carefully before using.

▲ Clean the glass surfaces with window cleaner or dish soap. Rinse the surfaces well and dry them with a rubber squeegee or a dry cloth.

▲ Check the fastenings (door, benches, railings, guards) and tighten screws if necessary.

▲ Clean the floor drain.

POSSIBLE FAULT SITUATIONS

If the sauna heater doesn't heat up or the sauna room heats up slowly:

MODELS WITH A BUILT-IN CONTROL CENTER:

- Is the timer in the operational range?
- Has the timer stopped? Does the timer knob touch the heater body and not turn? The appropriate gap is 1–2 mm, so if necessary, pull the knob out a couple of millimeters.
- Is the thermostat set to a higher temperature value for the sauna?
- Has the overheating protection triggered? The cause of overheating should be identified before turning the heater back on.
- Are the fuses in the main distribution board intact and turned on? Always determine the cause of a blown fuse before turning the heater back on.
- Check if all the heating elements glow when the heater is on.
- Ensure that the heater's power is appropriate for the specific sauna room.
- Check if the sauna stones are stacked correctly and that they are not too compressed or overly deteriorated. Loosely stacked stones heat the sauna faster.
- Ensure that the ventilation in the sauna room is adequate and set up correctly (See page 8).

MODELS WITH A SEPARATE CONTROL CENTER:

- Is the heater activated from the control panel?
- Is the target temperature set to a higher value for the sauna?
- Is the main switch of the heater on? The switch is located at the bottom of the heater.
- Are the fuses in the main distribution board intact and turned on? The cause of a blown fuse should always be determined before turning the heater back on.
- Check if all the heating elements glow when the heater is on.
- Ensure that the heater's power is appropriate for the specific sauna room.
- Check if the sauna stones are stacked correctly and that they are not too compressed or overly deteriorated. Loosely stacked stones heat the sauna faster.
- Ensure that the ventilation in the sauna room is adequate and set up correctly (See page 8).

IF SURFACES NEAR THE HEATER BECOME DARKENED:

- Check that the safety distances are met (See page 4).
- Check that the stones are stacked correctly and loosely, and they haven't compressed or deteriorated too much. This can obstruct air circulation in the heater and lead to overheating of structures.
- Check that the heating elements are not visible behind the stones. Restack the stones if necessary.
- If the above instructions don't help, contact the heater's retailer.

TECHNICAL DETAILS

Stove model	kW	Resistance	Sauna volume	Voltage	Stove size	Wire cross-section	Stones	Control	Fuse
Loitsu	6	3 x 2	5–9 m ³	380–415V 3N~	300 300 1 250	5 x 2,5	120	8 + 4 h	3 x 10
Loitsu	6	3 x 2	5–9 m ³	380–415V 3N	320 320 1 250	5 x 2,5	150	Separate	3 x 10
Loitsu	9	3 x 2 + 3 x 1	8–14 m ³	380–415V 3N	320 320 1 250	5 x 2,5	150	8 + 4 h	3 x 16
Loitsu	9	3 x 2 + 3 x 1	8–14 m ³	380–415V 3N	320 320 1 250	5 x 2,5	150	Separate	3 x 16

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