

# IKI

KIUKAISTA KIUKAIN

## Instructions for installation and use



### IKI electric sauna heaters with built-in control unit

Pillar IKI 4,5 kW

Pillar IKI 6 kW

Pillar IKI 7,5 kW

Pillar IKI 9 kW

Pillar IKI 10 kW

09/2015

This instruction manual is intended for the sauna owner or the person in charge of caring for the operation of the sauna, as well as for the electrician who installs the heater. When the installation is complete these instructions must be given to the owner or the person caring for the sauna. The sauna heater is intended for the sole purpose of heating the sauna room to a temperature appropriate for bathing. Its use for any other purpose is prohibited.

## **Before you begin installing the heater, pay attention to the following points:**

- Beware of the sharp edges of the stainless steel mesh. Use a long-sleeved shirt and protective gloves during the installation.
- Read through this installation manual before you begin the installation of the heater.
- In these heater models the sensors for the thermostat and temperature restrictor (overheat protector) are installed in to the heater's mesh frame according to instructions.
- The warranty does not cover defects caused by faulty installation or misuse of the heater.

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## Table of contents

	Page(s)
Installation of the heater_____	3
Pictures of the installation_____	4
Connecting heater to electrical network_____	5
Temperature restrictor_____	5
Thermostat_____	5
Timer_____	5
Circuit diagram_____	6
Supporting heater against a wall_____	7
Heater models_____	8
Safety distances_____	8
Requirements for water quality_____	8
Instructions for use_____	9
Trouble-shooting_____	9
Warranty_____	10-11
Mechanical ventilation_____	12
Warnings_____	13

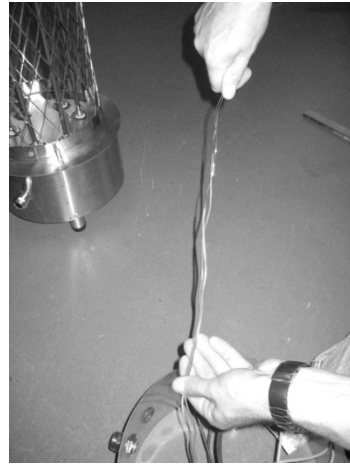
## Installation of the heater

1. Choose the place for the heater according to the required safety distances. The installation must be carried out in the place where the heater will be situated. The safety distances are measured from the heater's mesh frame outwards. Minimum safety distance to inflammable surfaces is 100 mm on the sides and the back of the heater and 600-800 mm to the ceiling (**refer to page 8**). Negligence to comply with the safety distances may cause fire hazard.
2. Remove the protective plastic covering from the heater.
3. Remove the base plate from the underside of the heater by unscrewing the three screws. Unwind the sensor cords and lead them out (pictures 1, 2 and 3). Connect the five pole electric cable to the connection strip inside the element box according to the circuit connector diagram (page 6).
4. Test that all the heating elements function properly by switching the timer on for 1–4 hours' usage. If all the resistors heat up, close the element box panel. (If one or more of the heating elements fails to heat up or another problem occurs, contact the manufacturer's technical support.)
5. Place the lower part of the stainless steel mesh frame around the heating elements, so that it is an equal distance from all the heating elements. The steel pegs in the base of the heater help center the mesh frame.
6. Attach the sensors to the outside of the stainless steel mesh frame (pictures 4–6). The sensors should be located at mid-height.
7. Check that the heating elements stand up straight. If they have been bent, carefully straighten them.
8. **PILING OF THE STONES:** Wash the stones before piling. Detach the two stainless steel mesh frames from one another (excluding the Pillar IKI 7,5 kW heater model). Pile stones to the lower part of the frame. Once the lower part has been filled with stones, reattach the upper part of the frame. Pile stones to fill the upper part. The heating elements should be carefully covered. Please make sure that elements make **NOT** contact with each other or with the heater frame. Olivine, olivine-dolerite and peridotite stones are recommended, in sizes smaller than 10 cm in diameter. The stones should not be placed too tightly together allowing for free airflow between the stones. In communally or publicly used saunas we recommend the use of ceramic Kerkes stones around the heating elements ([www.kerkes.fi](http://www.kerkes.fi)). Kerkes stones support and help preserve the resistors and they do not disintegrate prematurely due to high temperature changes. **Note** that the use of soapstone and natural stones is allowed only on the outer edges and on the top of the heater.
9. Affix the steel supporters between the upper rim or middle of the heater's frame and the wall at the correct angle, according to safety distances (page 8). Check that the heater stands steady before use.
10. We recommend the use of safety railings around the heater. However, the stainless steel mesh frame does not over-heat the way ordinary steel-cased heaters do.
11. The surface of the stones sinks in a little after the heater is in use. Frequently check that the heating elements do not become exposed. If this should happen, pile in more stones. The disintegration of the stones depends on the type of stones and the frequency of use. The condition of the stones should be checked yearly and broken stones must be replaced with new ones.

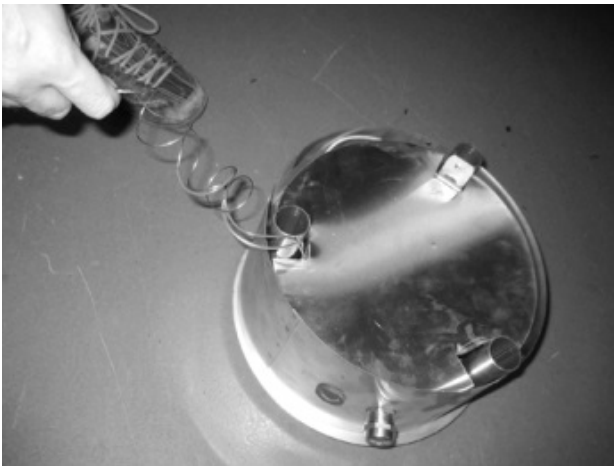
## Pictures of installation



**PIC 1**



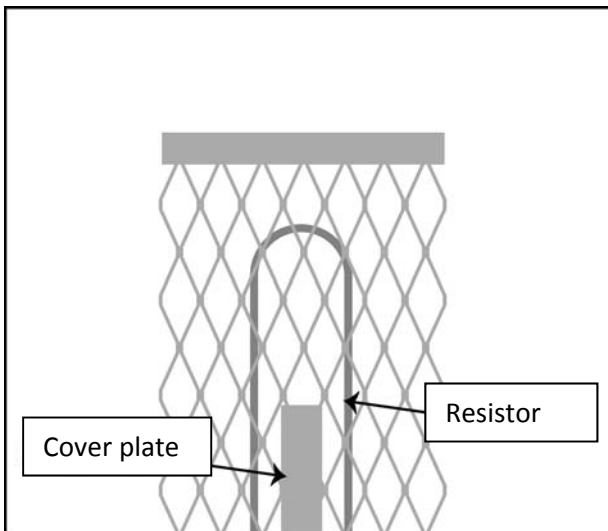
**PIC 2**



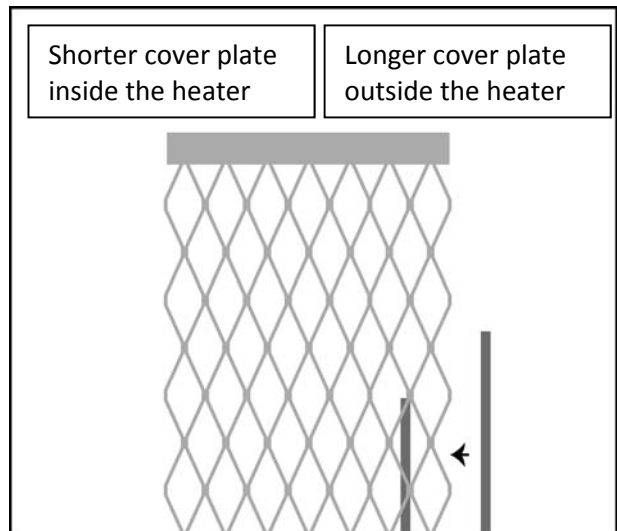
**PIC 3**



**PIC 4**



**PIC 5**



**PIC 6**

## Connecting the heater to the electrical network

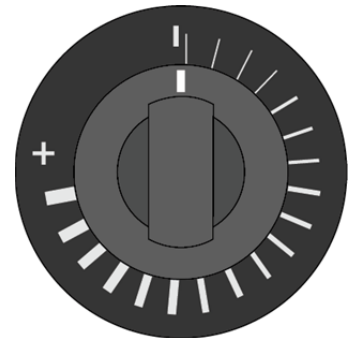
The heater is connected to the electrical network semi-stationarily with an H07RN-F rubber cable or an equivalent. The use of PVC-insulated cable as a connecting cable is prohibited due to thermal embrittlement. **The electric installation may only be administered by a qualified electrician adhering to current regulations.** The maximum distance of the junction box from the floor is 400 mm, measured from the upper corner of the box. Make sure that the connecting cable will not be exposed to thermal radiation or mechanical strain. If the rubber cable running inside the wall of the sauna is above 1000 mm from the floor, it needs to endure temperatures up to 170 degrees Celsius (for example SSJ). The power restrictor of the electric heater is connected to input 33 (page 6, circuit diagram).

## Temperature restrictor

The temperature restrictor switches off the power if the temperature in the sauna climbs dangerously high due to a malfunction. The temperature restrictor can be reset after the heater has cooled down, from the button located in the front panel. If the restrictor cuts the power off again, it is not due to a temporary malfunction. **The cause of the malfunction needs to be determined by a qualified electrician before resetting.**

## Thermostat

To control the temperature of the heater use the knob in the control panel. When heating the sauna for the first time, rotate the knob to its maximum position for one hour. Check that the temperature in the sauna is approx. 50–60 degrees Celsius. Turn the temperature knob anti-clockwise until it clicks off. Adjust the temperature to whichever direction you wish. The new settings will take effect the next time you use the heater.

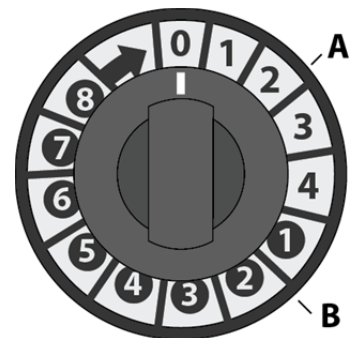


## Timer

The timer can be preset to start heating in 1 to 8 hours. The heater's operating time is 1 to 4 hours. The timer operates as the main power switch of the heater and it switches the heater on and off according to your settings. The heater is on for 4 hours from the preset heating time unless it is manually switched off when no longer needed.

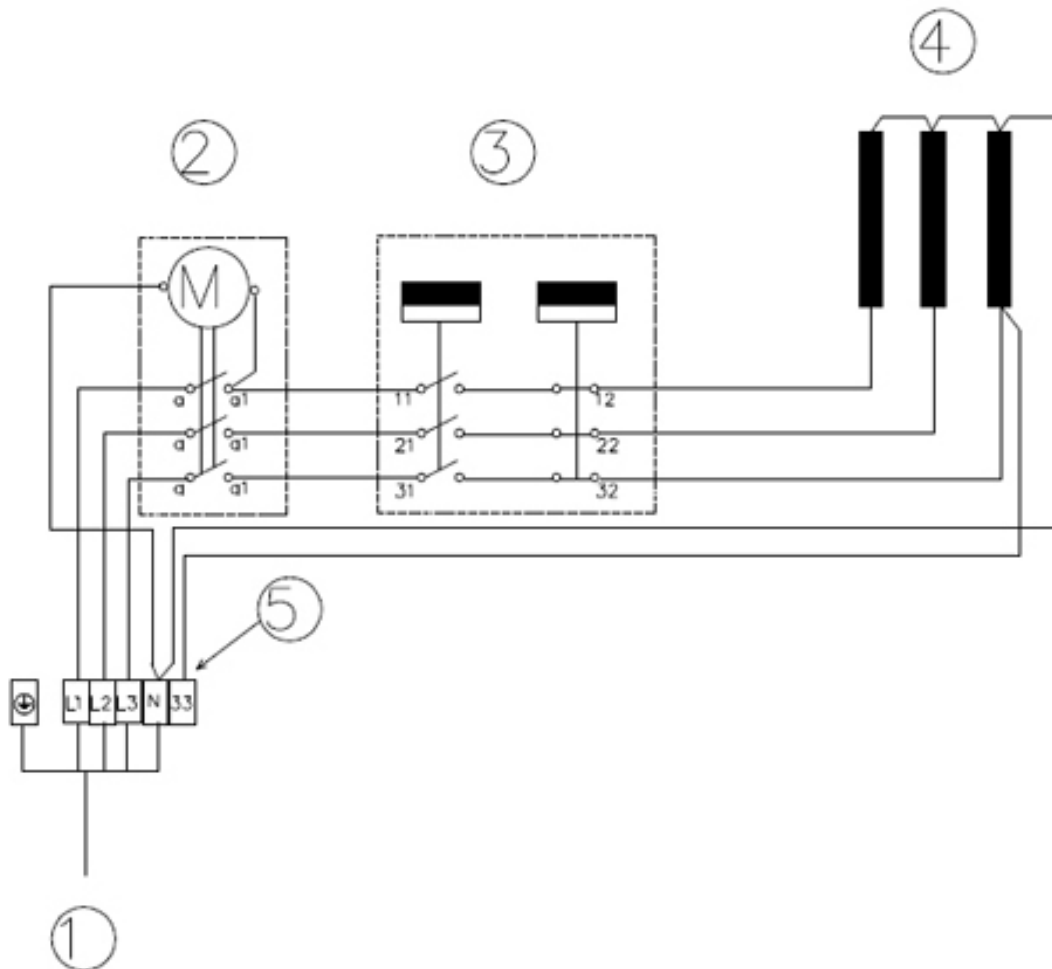
**To start heating immediately:** Rotate the knob to the operating range (Section A in the image) to run for 0–4 hours.

**To pre-set heating:** Rotate the knob to the pre-setting range (section B in the image), to begin in 1 to 8 hours. The heater switches on when the knob has rotated itself to the operating range.



**WARNING!** Always make sure after you finish sauna-bathing that the power is switched off and no longer powers the heat resistors when set to zero.

## Circuit diagram



1 = Input 3\*400V, N, PE 5x1,5 mm<sup>2</sup> – 5x2,5 mm<sup>2</sup> depending on heater

2 = Timer 8+4 H

3 = Thermostat/overheating restrictor 40-95 °C

4 = Heating elements

Pillar IKI 4,5 kW 3x1500W

Pillar IKI 6 kW 3x2000W

Pillar IKI 7,5 kW 6x1250W

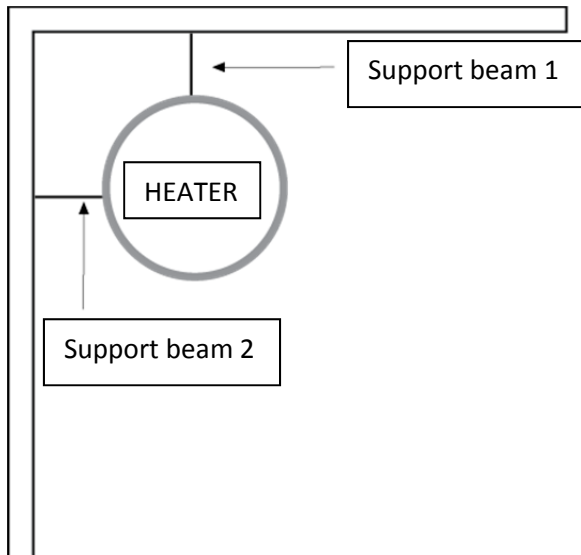
Pillar IKI 9 kW 6x1500W

Pillar IKI 10 kW 6x1667W

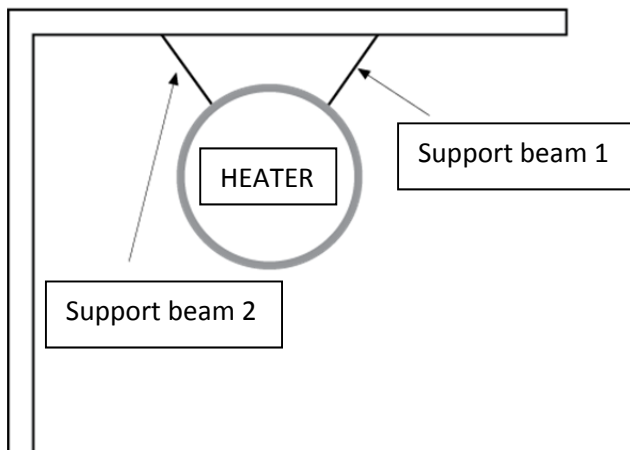
5 = Input 33, power restrictor

## Supporting the heater against a wall

**Alternative 1, corner:** one support beam from each wall to the heater



**Alternative 2, wall:** both support beams from wall to heater at an angle



**NOTE!:** the safety distance from the heater's mesh frame to inflammable materials is minimum of 100 mm.



## Heater models

Heater	Room size	Heater height	Heater diameter	Stone capacity	Wattage	Fuse	Cable
Pillar IKI 4,5 kW	3-6 m <sup>3</sup>	120 cm	26 cm	80 kg	4,5 kW	3x10A	5x1,5 mm <sup>2</sup>
Pillar IKI 6 kW	5-9 m <sup>3</sup>	140 cm	26 cm	100 kg	6kW	3x10A	5x1,5 mm <sup>2</sup>
Pillar IKI 7,5 kW	7-12 m <sup>3</sup>	105 cm	34 cm	140 kg	7,5 kW	3x16A	5x2,5 mm <sup>2</sup>
Pillar IKI 9 kW	8-16 m <sup>3</sup>	120 cm	34 cm	150 kg	9 kW	3x16A	5x2,5 mm <sup>2</sup>
Pillar IKI 10 kW	10-18 m <sup>3</sup>	125 cm	34 cm	170 kg	10 kW	3x16A	5x2,5 mm <sup>2</sup>

## Safety distances

To inflammable materials (e.g. wall panelling or seating)

Heater	Front	Side	Back	Up
Pillar IKI 4,5 kW	10 cm	10 cm	10 cm	60 cm
Pillar IKI 6 kW	10 cm	10 cm	10 cm	60 cm
Pillar IKI 7,5 kW	10 cm	10 cm	10 cm	80 cm
Pillar IKI 9 kW	10 cm	10 cm	10 cm	80 cm
Pillar IKI 10 kW	10 cm	10 cm	10 cm	80 cm

## Requirements for water quality

Water type	Effect	Recommendation
Humus concentration	Color, taste, precipitates	<12 mg/l
Iron concentration	Color, smell, taste, precipitates	<0,2 mg/l
Hardness: most important substances are manganese (Mn) and lime, i.e. calcium (Ca)	Precipitates	Mn: <0,05 mg/l Ca: <100 mg/l
Chlorinated water	Risk to health	Forbidden
Seawater	Fast corrosion	Forbidden

## Instructions for use

- Before bathing for the first time, heat up the heater once to burn off the protective oil solvents. Be careful to air out the sauna room efficiently afterwards.
- The heating time is about 45–75 minutes depending on the size of the room and its ventilation. Recommended temperature for IKI stone pillars is 50–70 degrees. Pouring water on the heater increases temperature and humidity. You can control the heat and humidity by pouring the water to different parts of the heater.
- The temperature should be set to the desired range from the temperature knob in the control unit.
- Check that the heating elements do not become exposed as the stones shift about due to heat expansion.
- Check the condition of the stones once a year, and clean and replace as necessary.
- Do not throw water to the heater when there are people nearby: the steam coming off the heater is burning hot. Do not throw too much water on to the heater. Maximum amount is half a litre at a time.

## Trouble-shooting

If the heater or sauna room does not heat up, check that:

- The power is on.
- The timer is set to the operating range between 1–4 hours.
- The temperature knob is set to a higher temperature than the temperature in the sauna room.
- The fuses are intact.
- The temperature restrictor (overheat protector) has not gone off. If temperature restrictor has gone off, the reason for this must be solved before using heater again. Try pressing the **reset button** which is located at the bottom of heater (see picture below).
- The stones are piled correctly



Reset button

If the wooden walls / parts take on a darker shade, check safety distances and piling of the stones.

## Warranty

IKI-Kiuas Ltd (the manufacturer) assures a warranty to its products as stipulated here, guaranteeing the quality and functionality of the products during the warranty period. The warranty applies to heaters sold and used in Finland. The warranty requires that the buyer follow the instructions regarding the placement of the heater, its installation, use and maintenance as well as those regarding the qualities of the stones used in the heater. The length of the warranty period is 24 month from the day of purchase or from the day of purchase. The warranty period for spa saunas and other public-use saunas is 6 months, or determined according to the frequency of use. Contact the manufacturer for more details.

### The warranty for electric heaters requires that:

- 1 In case of defect or malfunction, the buyer must always contact the manufacturer or sales agent before searching for the cause or attempting to repair it. Any repairs must be agreed upon in writing with the manufacturer.
- 2 In private apartment use, the heater's stone space needs to be cleaned out and re-piled at least once a year and weathered stones need to be replaced with new ones.
- 3 In institutional or professional use, the heater's stones must be re-piled at least three times a year during the warranty period. If this is not done, the warranty ceases to apply. In addition, the stones must be changed to new ones at least once a year. Proof, such as the product's purchase receipt, must be presented at request. The use of ceramic heater stones (other than those from Kerkes) is prohibited.
- 4 The warranty does not cover dismantlement or reinstallation on sauna benches, removal of sauna stones nor re-piling them. IKI-Kiuas recommends using for the lower levels sauna benches that can be moved without using tools to dismantle structures.
- 5 The warranty for replacement parts is 12 months from the day of purchase. The replacement for the damaged part will be delivered to the sales agent cost free. The installation of the replacement part must be carried out by a mechanic that has been approved by the manufacturer. The manufacturer is not liable to reimburse any costs due to the removal of the faulty part or the installation of the replacement. The faulty part must be returned to the manufacturer at request and at their expense. The manufacturer will issue its freight contact number for the delivery of the faulty part. Receipt from the reseller or certificate from a manufacturer's authorized mechanic will function as a warranty certificate.
- 6 **Warranty based on the conditions set by The Electrical Contractors' Association of Finland STUL.** STUL-warranty applies to electric heaters and control units if agreed upon in writing. In such cases, the conditions STUL has set are attached to these warranty conditions. When the use of STUL warranty has been agreed upon, they supersede these warranty regulations, if contradictory.
- 7 Limitations to warranty: The product owner must take good care of the product. On receiving the product, the owner is expected to check that it does not show signs of damage caused during shipping or storage. In case of such damage, they must contact the sales agent or transport company immediately. The manufacturer is not liable for any damages caused during shipping, or by inappropriate storage, installation or use against manufacturer's instructions, neglect of maintenance, or damage caused by placement of the heater in a place which does not meet the recommendations made by the manufacturer.
- 8 Damage notifications: The owner is responsible for notifying the manufacturer, the sales agent, or manufacturer's authorized mechanic of any damage or malfunction as soon as it appears and within 14 days. Any warranty related claims must be submitted within 14 days from the closing date of the product's warranty period.

- 9           Manufacturer's actions regarding warranty, continuation of warranty: In receipt of a substantiated warranty claim, the manufacturer will repair or change the product. This is done in the manufacturer's expense, and the manufacturer is free to select the most cost-effective alternative. The warranty for replacement parts is outlined above. The replacement part is granted warranty according to specifications. The warranty for a repaired part continues as before.

The manufacturer is not liable for reimbursing any expenses, business loss or other direct or indirect harm occurred to the buyer from damages or malfunction.

## **Quality guarantee / Freight guarantee**

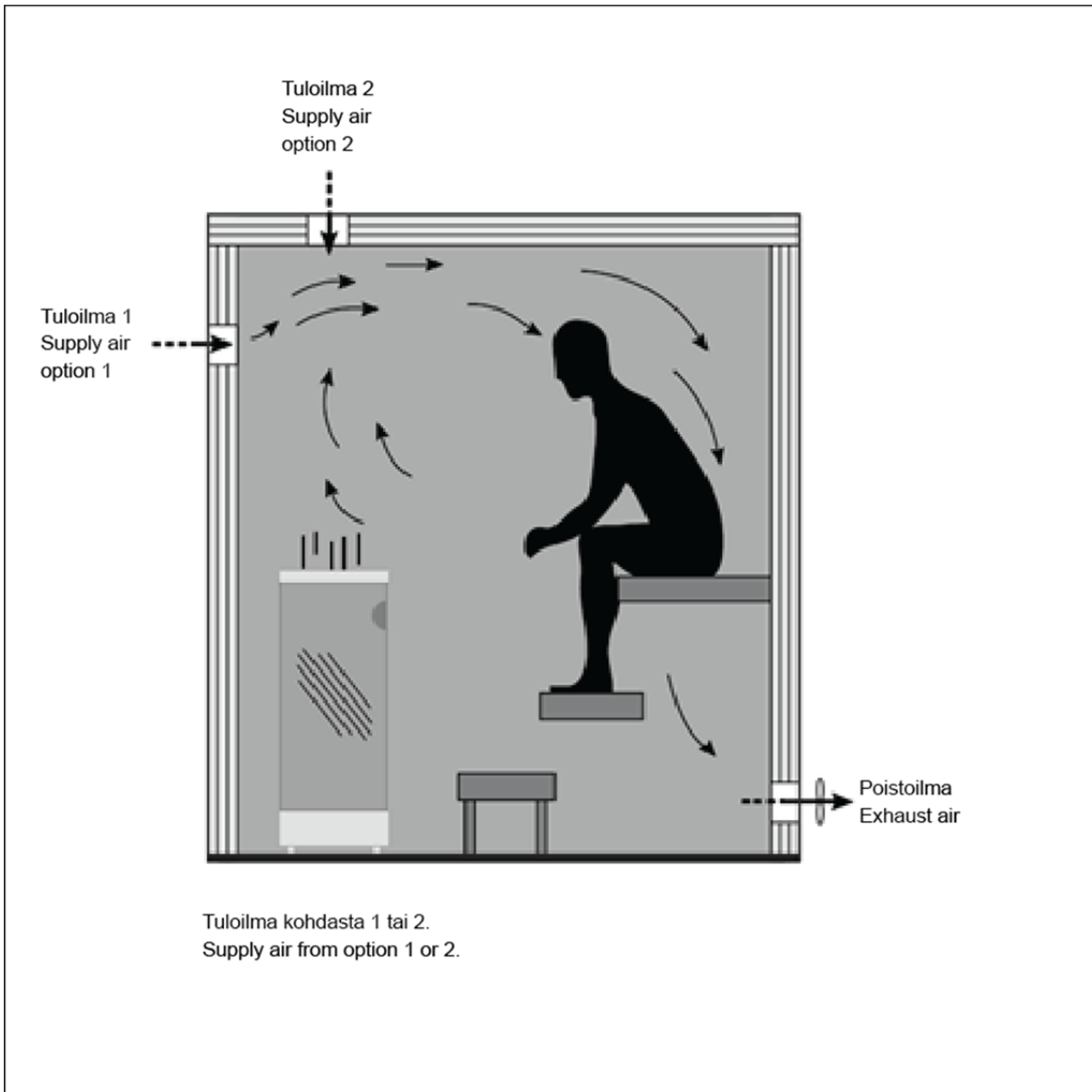
Guarantee of materials. The manufacturer guarantees the durability of the stainless steel parts (resistor platform and frame) in private home use for 10 years. During the warranty period any defects that appear in the heater's raw materials or are production-based will be repaired free of charge. For example, the use of seawater on the heater is forbidden. Read through the requirements for water quality in the installations instructions.

The warranty does not cover colour changes, slipping or hair-line fractures, characteristic to natural stones, which do not affect the use or the safety of the heater.

Damages occurred while shipping must to be recorded in the waybill when the product is received or within 7 days of delivery. Shipping damage must also always be reported to the shipping company's last contact. The damaged part needs to be stored for inspection. Insurance compensates for the new part, which will be delivered by a public transporter. In all issues concerning warranty contact the store the product was bought from.

## Mechanical ventilation

The ventilation in the sauna room needs to be considered. Proper air flow allows bathers to enjoy fresh, oxygen-rich air. The air should fully change 6 times an hour. The supply air inlet should be installed on the wall or the ceiling at about 500 mm above the heater. The supply air inlet vent should be 50-100 mm in diameter. The outlet vent should be located as far away from the heater as possible, close to the floor. The outlet vent should be twice the size of the inlet vent.



## Warnings

1. Staying in the hot sauna for long periods increases body temperature, which may be dangerous.
2. Keep away from the heater when it's hot. The stones and outer surface of the heater may burn.
3. Prevent children from getting close to the heater.
4. Do not leave children, handicapped or ill people to use the sauna without supervision.
5. Consult your doctor about any health concerns regarding sauna-bathing.
6. Consult child welfare clinic about taking little babies to the sauna.
7. Always move carefully in the sauna, as the benches and floors may be slippery.
8. Never go to a hot sauna under the influence of alcohol, medication or narcotics.
9. Never sleep in a hot sauna.
10. Sea-air and a humid climate may corrode the metal surfaces of the heater.
11. Do not hang clothes to dry in the sauna, as this may cause a risk of fire.  
Excessive moisture content may also cause damage to the electrical equipment.



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