

# IKI

KIUKAISTA KIUKAIN

## Instructions for installation and use



### IKI electric heaters with Finlandia control unit

Pillar IKI 4,5 kW

Pillar IKI 6 kW

Pillar IKI 7,5 kW

Pillar IKI 9 kW

Pillar IKI 10 kW

4/2020

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.
- The warranty does not cover defects caused by faulty installation or misuse of the heater.

## **CONTACTS**

**Technical support**  
(Mon - Fri 9-16)  
+ 358 (0) 600 550 133  
(1,49 €/min + l.c.c.)  
tuki@ikikiuas.fi

**IKI-Kiuas Oy**  
Hakaniemenkatu 11  
00530 Helsinki  
ikikiuas@ikikiuas.fi

**Vallila pick up & storage**  
Pälkäneentie 5  
00510 Helsinki  
vallila@ikikiuas.fi

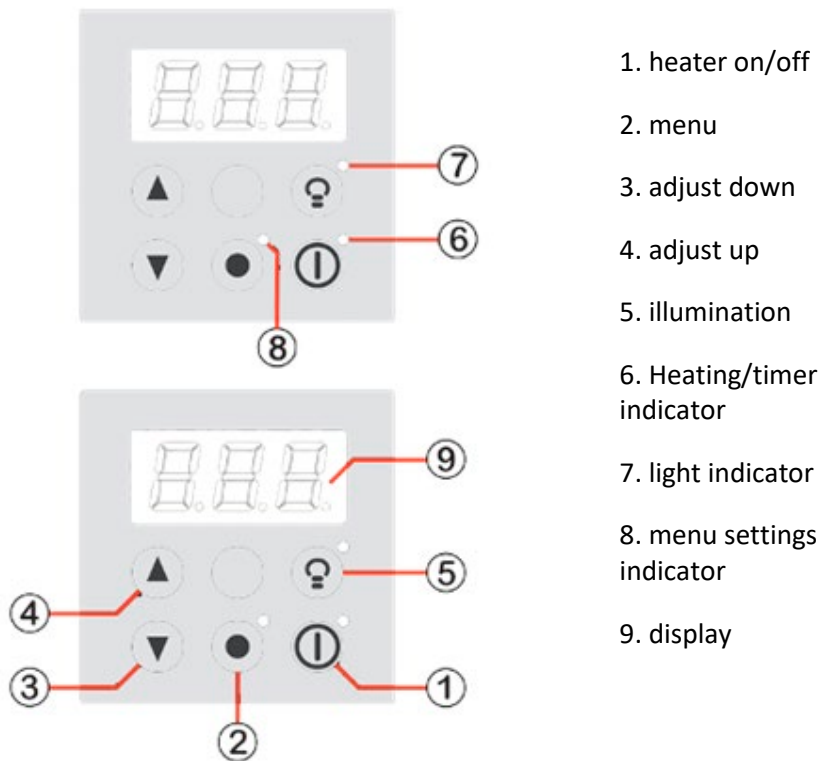
**Production / Pieksämäki**  
Niilontie 10  
76150 Pieksämäki  
tuotanto@ikikiuas.fi

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# Operating the control unit

## Finlandia control unit



NUMBER	FUNCTION
1	<b>On /Off button.</b> Use this button to turn the heater on and off. If the timer is switched on, a push of the button will set off the timer and start heating accordingly. Tip: A long push will bypass the timer and begin heating immediately.
2	<b>Menu button.</b> This button allows you to scroll the user interface menu: (Home -> Goal temperature -> Heating time -> Timer -> Home)
3	<b>(∨) button.</b> This button allows you to adjust the settings down.
4	<b>(^) button.</b> This button allows you to adjust the settings up.
5	<b>Light indicator.</b> Use this button to switch on the lights on the heater (when applicable). A second push turns the lights off.
6	<b>The device is active indicator.</b> This light is on continuously when the heater is active. The light glows when the timer is on. The light is off when the heater is off.
7	<b>Goal temperature indicator.</b> When this light is illuminated you can adjust the goal temperature.
8	<b>Menu setting indicator.</b> When this light is illuminated you can adjust the settings in the menu: timer, operating time, temperature.
9	<b>3-digit display.</b>

## Display menu



The settings menu includes these setting options. To move from one to the other, press the menu button.

## Settings

PARAMETRE	RANGE	MEASURE	DEFAULT
Goal temperature	40 ... 110 *C	1 *C	60 *C
Operating time	1h ... 4h	30 min	1h
Timer	0,0h ... 24h	30 min	0h

## Goal temperature

The heating temperature can be adjusted within the range of one celsius grade. The minimum is 40 degrees, maximum 110. The setting is stored in device's memory.

The goal temperature can be adjusted in two ways:

1. Press Menu button until the goal temperature is shown on the display. Press ( ^/+ ) or ( √/- ) buttons to change the pre-settings. If no buttons are pressed for 10 seconds, the home menu returns. You can exit the settings mode by pressing the menu button repeatedly.
2. When the display shows heater temperature, press ( ^/+ ) or ( √/- ) buttons to set the goal temperature directly. Exit settings as above.

## Operating time

The heater can be set to operate for 1 to 6 hours. You can adjust the time in 30-minute intervals. The time must be set when the heater is off. The settings are stored in the device's memory. The settings can be adjusted by pressing the menu button twice in succession. To adjust the operating time while the heater is on: when the operating time is shown on the display, press ( ^/+ ) or ( √/- ) buttons to reduce or increase the operating time. The adjustment range is 15 minutes. This setting will not be stored in the device's memory. The setting can be readjusted by pressing the menu button twice.

## Timer

You can set the timer by pressing the menu button three times. The setting can be adjusted by pressing ( ^/+ ) and ( v/- ) buttons. The range is 0.5h – 24h and the interval 0.5 h. When the setting shows 0, the timer is off. This can be changed only when the heater is off.

## Switching the heater on

Use the control switch in the heater to turn the heater on. When you press the on / off button in the control unit, the heater will begin to warm up towards the goal temperature. The heating indicator light will illuminate. The right hand lower corner in the display will show a decimal point to indicate that the heat resistors are switched on. (If the timer is set, pressing the on/off button will start counting down the time. The heater will begin warming up only after the set time has elapsed.) The heater can be switched off by the on/off button.



Control switch

The decimal point on the right indicates that the heat resistors are switched on. When the resistors are off, the decimal point will disappear.



Näytön oikeanpuoleisin desimaalipiste näyttää milloin kiukaan vastukset ovat päällä. Kun vastukset eivät ole päälle desimaalipiste sammuu.

**Tip:** If the timer has been set but the heater is not switched on yet, it is possible to bypass the timer by keeping the on/off button pressed down for a few seconds. The heater will begin heating immediately. The timer setting will be stored in the device's memory.

## Installation of the heater

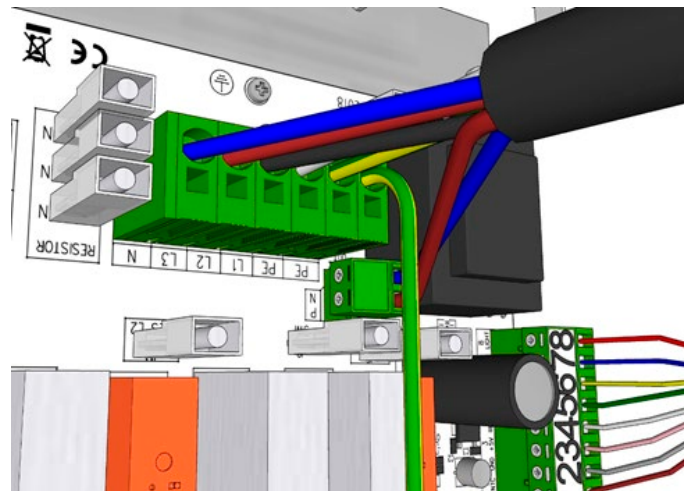
The electric installation may only be administered by a qualified electrician adhering to current regulations. The instructions for the installation to the electric circuit are shown on the diagram on page 14. The heater is connected to the electrical network semi-stationarily with an H07RN-F rubber cable or an equivalent.

### NOTE!

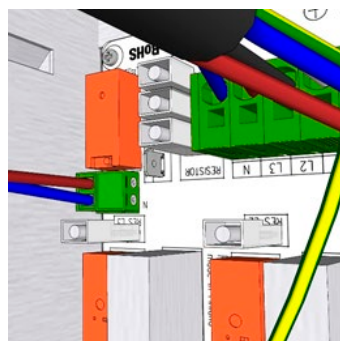
- Use protective gloves and long-sleeved shirt when setting the mesh frame and laying the stones.
- The use of PVC-insulated cable as a connecting cable is prohibited due to thermal embrittlement.
- The heaters on/off switch is only operating switch. The electric current is on if it is attached to the network.
- The control unit should not be located in a shower room or other humid place.

## Step by step

1. Choose the location for the heater and pay close attention to safety distances. (page 13)
2. Remove plastic wrappings
3. When choosing the place for the heater, pay attention to ventilation inlets and outlets in the sauna room, as well as the location of the thermostat sensor and the remote operating unit.
4. Set the stainless steel platform level by adjusting the legs.
5. Remove the cover plate for the heating elements and connect the five pole electric cable to the connection strip.

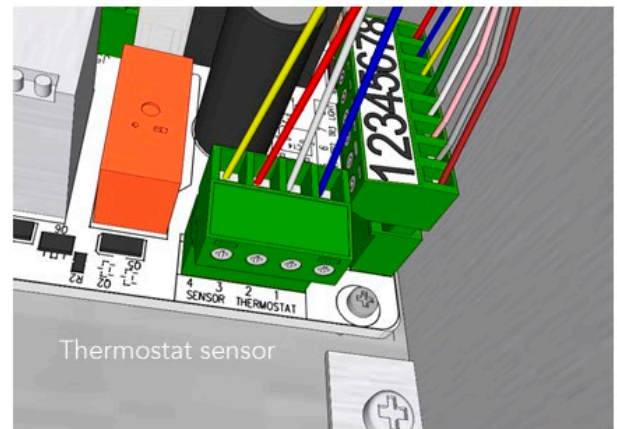
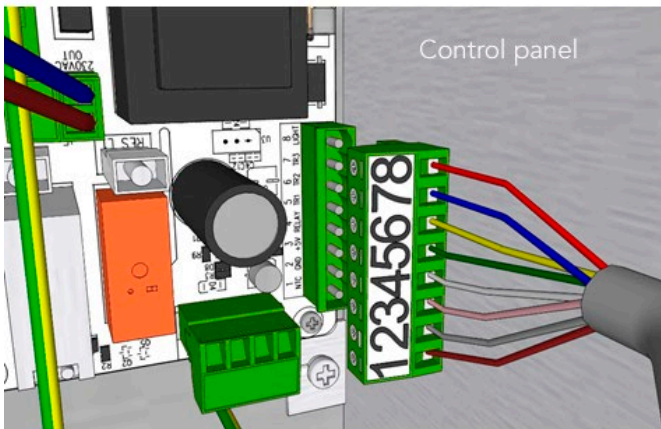


6. Temperature drop (connector J5) (If this option is available, the connector can be linked to the relay or the contactor coil that drives the heating in the building)
  - a. P - External - Brown
  - b. N - 230VAC OUT – Blue





7. Connect the sensor of the thermostat according to the instructions on the "Thermostat sensor installation". Lead the cable through the junction box on to the control unit and affix according to the instructions in the control unit (page 14).



8. Connect the control panel of the Finlandia control unit as indicated on page 10. The control panel wire colors are: 1. brown 2. grey 3. pink 4. white 5. green 6. yellow 7. blue 8. red
9. Test that all the heating elements function properly. If all the resistors heat up, close the element box panel. If problems occur, contact the manufacturer's technical support.
10. Place the stainless steel mesh frame around the heat resistors at equal distance.
11. Check that the heater complies with safety distances.
12. After piling the stones, affix the heater to the wall using the steel supporters. Check that the heater stands steady before use.
13. 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.

## Installation of the thermostat sensor

The sensor wires from left =

1 BLUE	2 WHITE	3 RED	4 YELLOW
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Connect the connector to the PCB to the correct clip, press down carefully.

### Affixing the sensor to the wall:

- distance from the ceiling to the top of the sensor 150 mm
- distance from heater frame 100–400 mm

### Affixing the sensor to the ceiling:

- distance from heater frame 100–400 mm



The temperature sensor should be installed no less than 1000 mm from an undirected air vent intake, or less than 500 mm from a directed air vent.

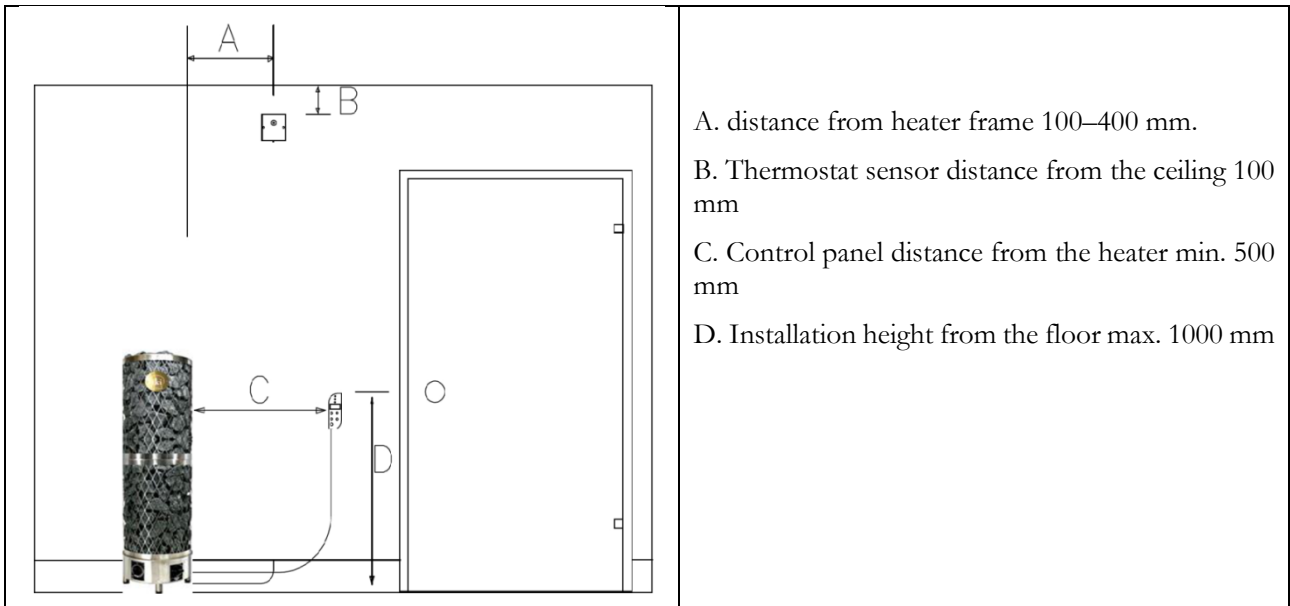
Lay the cable in the behind the panel to an air slot, if this cannot be done, use a separate moulding. Make sure the airflow does not interfere with the sensor.

## NOTE!

Do not cut the wire on the thermostat side. The sensor will not function if the wires are extended or reconnected. If the wire needs to be shortened, do the clipping on the side of the adapter, or contact technical support.

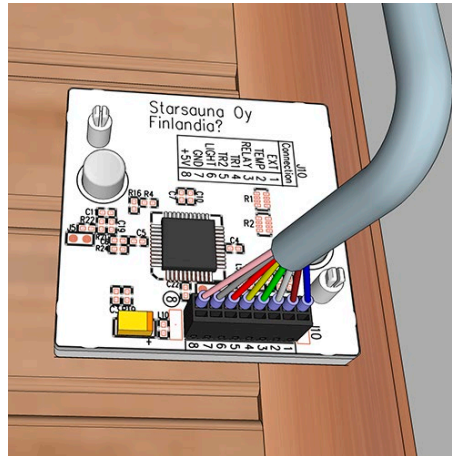


## Installation of the thermostat and control panel

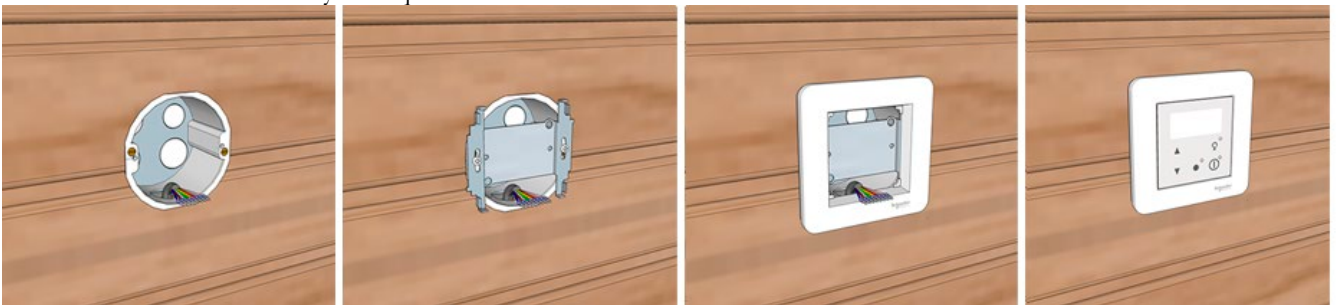


## Installation of the control panel

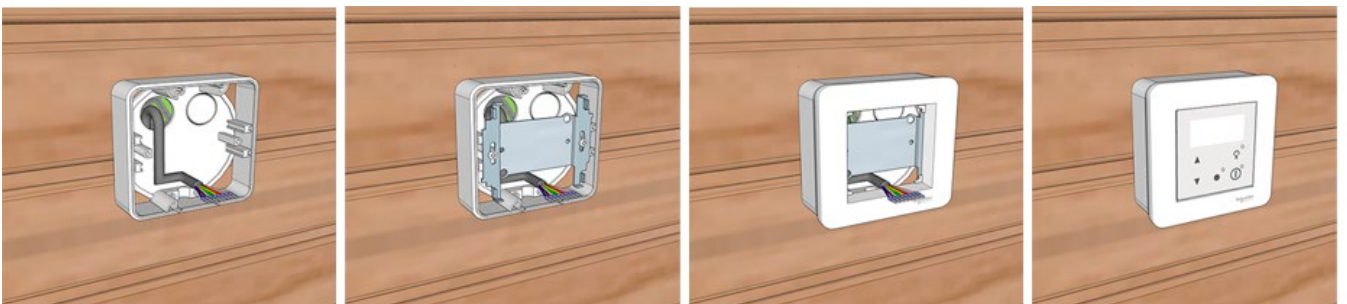
N.	Color
8	Pink
7	Grey
6	Red
5	Yellow
4	Green
3	White
2	Brown
1	Blue



1. See page 9 for the installation guidelines on the platform and distances.
2. Screw a hole of 70mm in to the panel for the box. Be careful not to drill as far as the insulation. If you damage the foil insulation, fix it with aluminium tape.
3. Place the box in the hole. Use the materials provided to affix it in place.
4. Lead the wires from the heater along the bottom of the panel to the hole and through to the box.
5. Attach the wires to the unit, as above. Press the unit down to the box. The unit is affixed with two steel pins.
6. Attach the control unit to the heater according to instruction on page 8. NOTE that the installation can be administered only by a qualified electrician.



- Note that the mounting box is not delivered with the heater. You can use boxes such as ABB wall plate mounting box AUS-15. 2p. Mounting boxes are sold in all well-equipped hardware stores. You can also install the control panel to the surface with a surface mounting box:



## Piling of the stones

Wash the stones before piling. Check the safety distances are correct and the heater is attached on the back strip. Check the maximum amount of stones for the heater model you are using from page 9. The heating elements must be well covered. Pile stones so they cover the elements with at least 5 centimetres on all sides, that the elements are not in contact with one another or the mesh frame. In normal use, 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.

During use, pay attention that the surface level of the stones drops. Check twice or thrice a year that the heating elements have not become exposed, add stones if necessary. Replace used stones periodically, as often as necessary. Check once a year the condition of the stones, and replace if needed.

## Table of heater models

Heater	Sauna size	Height of heater	Diameter of heater	Max stone capacity	Power	Fuse	Wire
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	6 kW	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

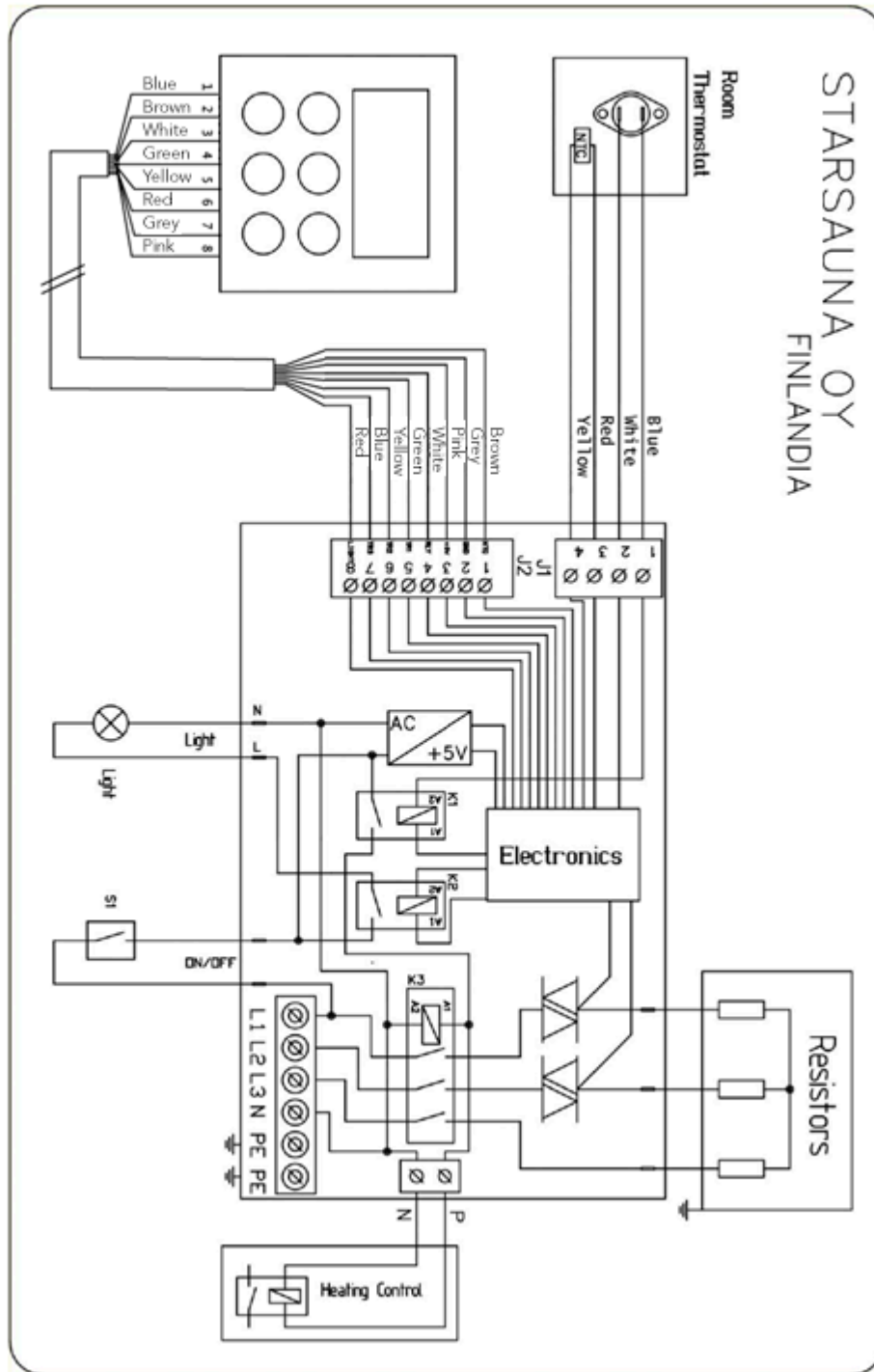
to inflammable surface materials (eg. wall panelling and benches)

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

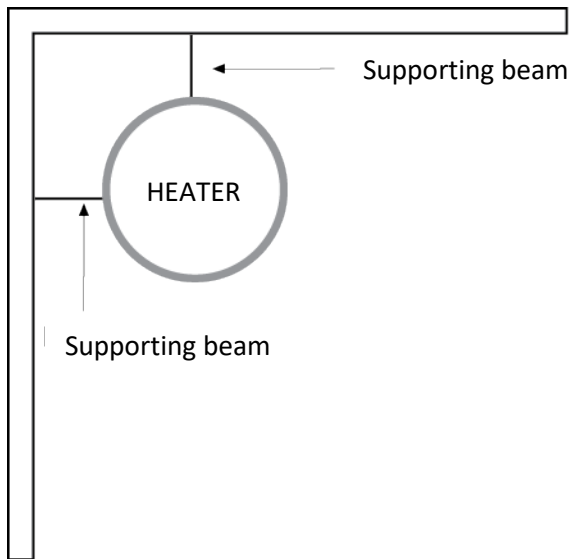
Water type	Effect	Recommendation
Humus concentration	Color, taste, precipitates	<12 mg/l
Iron concentration	Color, smell, taste, precipitates	<0,2 mg/l
Hardness: most important substances are manganese (Mn) and lime, i.e. calcium (Ca)	Precipitates	Mn: <0,05 mg/l Ca: <100 mg/l
Chlorinated water	Risk to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

# Circuit diagram

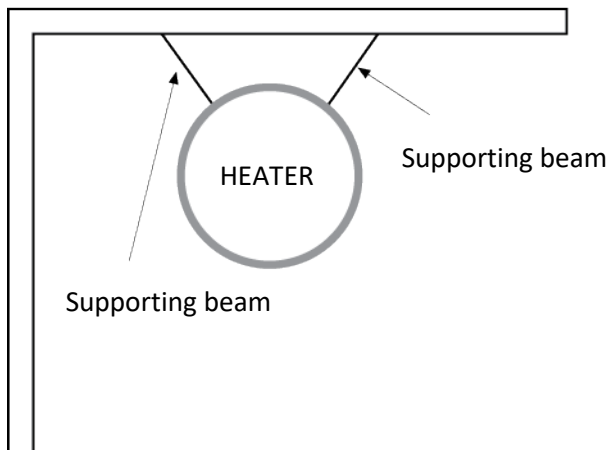


## Supporting the heater against a wall

### Option 1, corner installation:



### Option 2, wall-installation:



## 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 months 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.

## The terms of warranty for IKI-Kiuas Ltd regarding Finlandia control unit

The following terms of warranty have been drawn by Starsauna Ltd (the manufacturer) for IKI-Kiuas Ltd (the buyer) regarding control units for electrical sauna heaters. The warranty applies only to transactions between Starsauna Ltd and IKI-Kiuas Ltd, and shall not be directly applied to consumers. IKI-Kiuas Ltd must draw up separate terms of warranty regarding the sales of its sauna heaters.

Starsauna Ltd (the manufacturer) assures a warranty to its products as stipulated here. The warranty period is 24 months from the day of delivery in privately-used saunas. Sales receipt, confirmation of purchase order or signed record of delivery will apply as the warranty certificate.

Starsauna Ltd guarantees the quality and functionality of the control unit during the warranty period. The warranty requires that the buyer follow the manufacturer's instructions closely. The warranty does not apply to faults caused by installations and use contrary to instructions. The buyer must be knowledgeable of the suitability of the electrical parts to its products and the suitability must be acceptably tested. Starsauna Ltd delivers instructions for installation and coupling alongside this document, which the buyer may use as a supplement to installation instructions they provide to their customers.

Starsauna Ltd promises to keep the buyer informed of any changes to its products, regarding both circuitry and components.

### The terms of warranty:

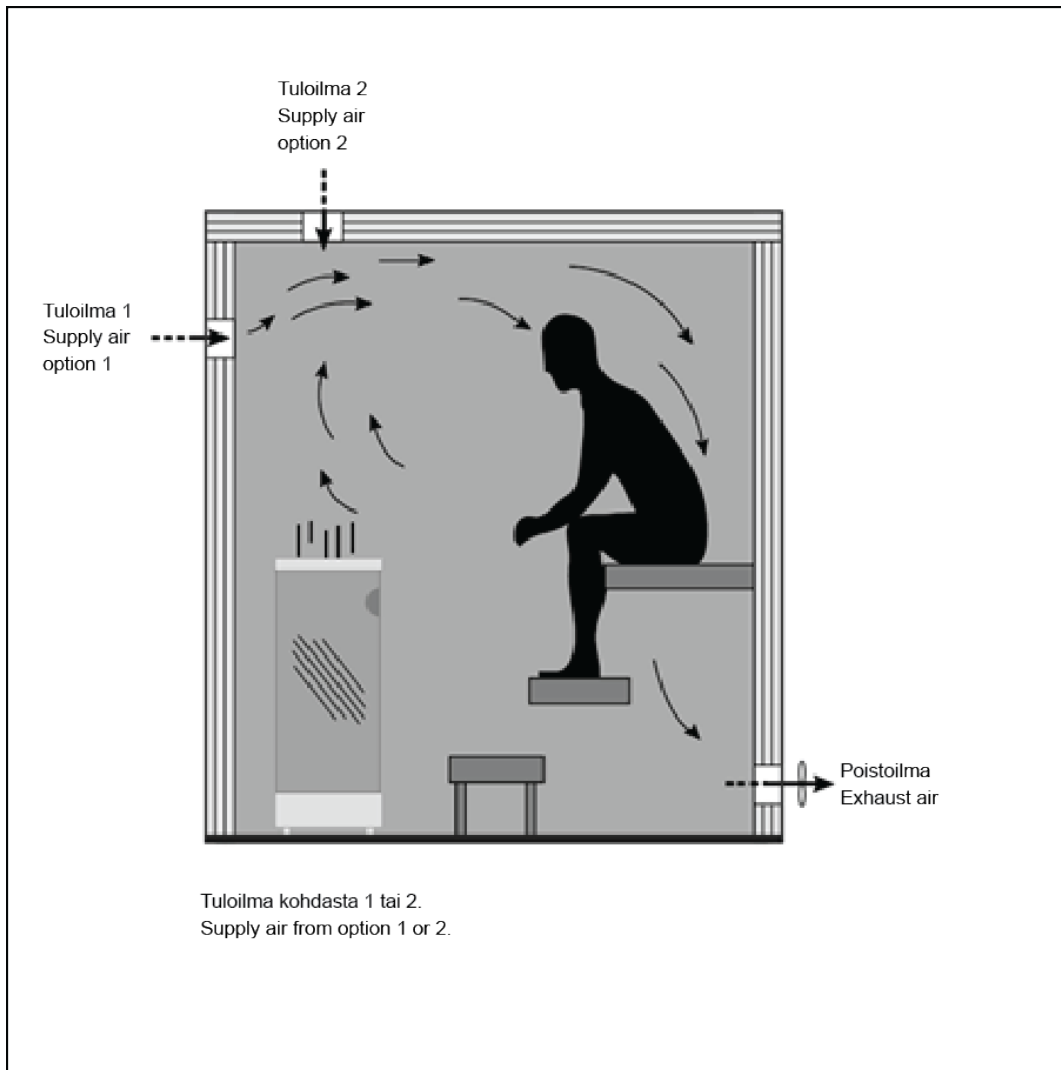
- The control unit must be installed by a qualified electrician, with a valid certificate in electrical installations. The installation must be carried out according to the instructions.
- Under no circumstances does the manufacturer take responsibility for direct or indirect damages, such as loss of production, revenue, gains, contracts or mileage.
- In case of malfunction, the product must not be dismantled or attempt to be repaired without consent and instructions from the manufacturer. Should the control unit or controller device have been tampered with, the manufacturer reserves the right to not replace the product or part of the product in question during the warranty period. The manufacturer may charge for spare parts if the terms of warranty have been breached. In case of troubleshooting issues not covered in the instructions, the buyer should always contact the manufacturer for solution suggestions prior to renewing any components.



- In troubleshooting conditions, the manufacturer will not compensate for expenses caused by dismantling furnishings in the sauna room.
- In troubleshooting conditions, the warranty does not cover the piling on and off of stones of the heater, nor taking the heater apart while determining the fault.
- Starsauna Ltd limits the warranty period to three (3) months in professional and industrial use. Industrial use applies to saunas that are continuously heated and used, such as in swimming baths, fitness centres etc.
- The control unit is not recommended to be used for more than 6 hours at a time.
- In case of repair work covered by the terms of warranty, Starsauna Ltd compensates for possible expenses caused by the use of a mechanic for up to 100 euros. This includes travel and on site labour expenses. The compensation will be settled after the malfunctioning unit has been returned to the manufacturer and deemed damaged by the manufacturer. If the damaged product is not returned to the manufacturer, no compensation will be paid out. If damage is caused by faulty installation or misuse, compensation will not be paid out. In such cases, the manufacturer will charge the buyer in full for the spare parts according to a valid price list. The claim for compensation must be delivered in writing to the manufacturer, with attached warranty certificate for the sold product including the date of purchase. Sales receipt, confirmation of purchase order or signed record of delivery will apply as the warranty certificate.
- Costs accrued from returning spare parts to the manufacturer will be covered by the buyer. Starsauna Ltd covers the cost of freight of spare parts to the buyer.
- Warranty period for spare parts is 6 months from the day of delivery.
- In case of repair work, the manufacturer's warranty is limited to the repair or change of the control unit, and will not cover work on other electrical systems.
- Primarily, warranty and repair matters will be handled between Starsauna Ltd and IKI-Kiuas Ltd. Starsauna Ltd is not obliged to instruct third-parties in repair or troubleshooting issues. The buyer is responsible for arranging technical support itself for the products it sells.

## **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.

## 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 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.
- 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.
- The stones are piled correctly
- Check for error message in the display.

No error message, but the heater does not warm up.



ER 1  
ER 2  
PCb

ER1 = temperature sensor missing or temperature is too low. Check the cable is installed correctly.

ER2 = Short circuit in the temperature sensor. Check the cable is installed correctly, intact and not short circuited.

PCb = the temperature is too high for the sensor reader. check above for fixes.

Check that the overheat protector has not come off. If it has, reset by carefully press the button in the sensor box.



# IKI

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