

# IKI

KIUKAISTA KIUKAIN

## Instructions for installation



**KIVI-IKI wood-burning stoves**

KIVI-IKI Jr  
KIVI-IKI

5/2019

**Carefully read through these instructions before installation and use:**

- This instruction manual is intended for the sauna owner. When the installation is complete the instructions must be given to the owner or the person caring for the sauna.
- **Store these instructions safely for future reference.**
- Take care to comply with the safety distances to inflammable materials when choosing the location for the stove.
- Be sure to inspect the floor's carrying capacity, the connection to the chimney and what type of piping is required, whether angled or straight.
- **NOTE!** Be careful when handling the stainless steel mesh frame, it has sharp edges. Use a long-sleeved shirt and protective gloves during the installation.

**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**

Nilontie 10  
76150 Pieksämäki  
tuotanto@ikikiuas.fi

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## KIVI-IKI wood-burning stove: instructions for installation and use

<b>CE</b>		
IKI-Kiuas Ltd. <b>13</b>		
<b>EN 15821:2010</b> NB 2450 AVCP3  Multi firing sauna stoves fired by solid wood fuel  <b>KIVI-IKI jr.</b> <b>DoP KI1020</b>		
Fire safety (initiation, risk to adjacent elements)		Passed
Safety distances to combustible materials*	to the back to the sides up to the ceiling	250 mm 250 mm 800 mm
Emission of combustible products		Passed
Surface temperature		Passed
Release of dangerous substances		NPD
Cleanability		Passed
Flue gas temperature (average)		423 ° C
Mechanical resistance		Passed
Sauna room heating output		15,1 kW
- carbon monoxide emission 13 % O <sub>2</sub> - CO-emission 13 % O <sub>2</sub>		Passed (5493 mg/ m <sup>3</sup> )
- carbon monoxide emission (%) at 13 % O <sub>2</sub> - CO-emission (%) 13 % O <sub>2</sub>		Passed (0,44%)
- total efficiency		Passed (66,2%)
- flue draught		12 Pa
- refuelling loads		3 kg
- flue gas mass flow		14,8 g/s
Durability		Passed
Flue gas temperature (max.)		595,8 °C

\* Follow the safety information in the installation instructions

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IKI-Kiuas Ltd. <b>13</b>		
<b>EN 15821:2010</b> NB 2450 AVCP3  Multi firing sauna stoves fired by solid wood fuel  <b>KIVI-IKI</b> <b>DoP KI1530</b>		
Fire safety (initiation, risk to adjacent elements)		Passed
Safety distances to combustible materials*	to the back to the sides up to the ceiling	250 mm 250 mm 800 mm
Emission of combustible products		Passed
Surface temperature		Passed
Release of dangerous substances		NPD
Cleanability		Passed
Flue gas temperature (average)		346 ° C
Mechanical resistance		Passed
Sauna room heating output		15,9 kW
- carbon monoxide emission 13 % O <sub>2</sub> - CO-emission 13 % O <sub>2</sub>		Passed (9110 mg/ m <sup>3</sup> )
- carbon monoxide emission (%) at 13 % O <sub>2</sub> - CO-emission (%) 13 % O <sub>2</sub>		Passed (0,73%)
- total efficiency		Passed (71,4%)
- flue draught		12 Pa
- refuelling loads		3,5 kg
- flue gas mass flow		13,5 g/s
Durability		Passed
Flue gas temperature (max.)		500 °C

\* Follow the safety information in the installation instructions

## 1. INSTRUCTIONS FOR SAFETY

The sauna stove is intended for the sole purpose of sauna-bathing. Its use for any other purpose, such as drying clothes or heating premises, is prohibited.

Covering the stove during use or while still warm is prohibited.

Using seawater or other salt water on the stove is forbidden and causes the warranty to cease.

Be careful when touching the flue connecting pipe, the hatch and other metal parts of the stove as well as the stones, they may be hot. Use protective gloves if you need to touch these parts.

Be extra cautious when taking children to the sauna.

During installation and changing of the stones, be careful with the sharp edges of the mesh frame. Use protective gloves and a long-sleeved shirt.

In addition to the instructions in this manual, please comply with EU 15821 regulation regarding the use of and installation sauna stoves as well as local fire authority's safety instructions.

The warranty does not cover damages caused by faulty installation and negligent use.

## 2. CONTENTS OF THE DELIVERY AND INSTALLATION

Make sure you have all the parts required for the stove:

- 1 pcs furnace and lower part of the mesh frame
- 1 pcs looped exhaust pipe (KIVI-IKI 2 loops, KIVI-IKI Jr 1 loop)
- 1 pcs upper mesh frame (excluding KIVI-IKI Jr stove)
- 1 pcs ash box
- 1 pcs grate
- 1 pcs glass hatch (in cardboard box)

The delivery also includes 1 ash spatula, 1 connecting flue pipe and a heavy-duty mitten to be used when touching the handle on the hatch when the stove is heated.



### 2.1 The location for the installation

When choosing the location for the stove, consider:

- Safety distances to inflammable materials and structures
- Flue connection (the height of an existing chimney pipe, or the route for the new pipe)
- The flooring material (inflammable, non-flammable, tiled or water-insulated) and the carrying capacity of the floor.
- Take into consideration the fact that there are a lot of stones in the stove and it is therefore heavy. (For technical data refer to part 3.2)
- We recommend IKI wood-burning stoves to be connected primarily to a brick chimney, or a ceramic chimney or air-cooled chimney. Exhaust pipe outer diameter is 115mm.

## 2.2 Stove models and technical data

MODEL	SIZE OF THE SAUNA ROOM	HEATING CAPACITY KW	STONE CAPACITY (MAX)	WEIGHT OF THE STOVE	HEIGHT OF THE STOVE	DIAMETER OF THE STOVE
KIVI-IKI Jr	8-20 m <sup>3</sup>	20	200 kg	70 kg	116 cm	48 cm
KIVI-IKI	15-30 m <sup>3</sup>	22,2	260 kg	85 kg	151 cm	48 cm

## 2.3 Preparation for use

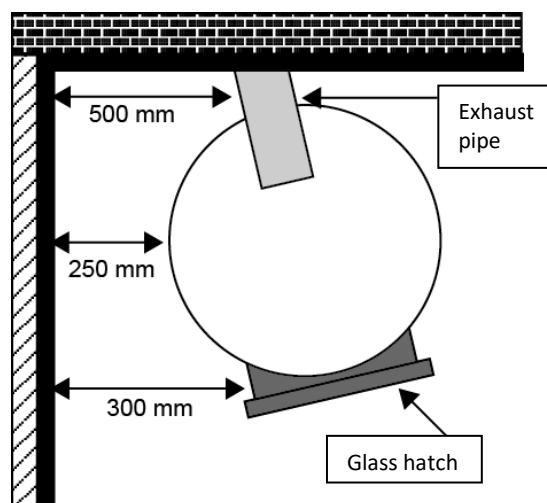
- We recommend you light a fire in the stove before putting in the stones and bathing, either outside or in a well-ventilated space, in order to burn off possible toxic residue from protective oils on the metal and steel surfaces.
- Olivine, olivine-dolerite and peridotite stones are recommended, in sizes smaller than 10 cm in diameter. The stones should not be placed too tightly together allowing for free airflow in between the stones.
- Do not store inflammable liquids close to the stove's furnace.
- All chimney fires, even after exhaustion, must be reported to the fire authorities.
- Chimneys in private residences in recreational use, such as cottages and their saunas, must be swept every three years.
- Chimneys in private residences in permanent use and non-private saunas in frequent use must be swept yearly.



## 2.4 Safety distances to inflammable structures

Please note that the gap between the furnace and the mesh frame must be fully covered by stones.

- The distance from the lower part of the stove's mesh frame to the sides must be 250 mm
- From the side of the furnace the distance must be 300 mm
- From the glass hatch to the front the distance must be 500 mm
- From an exposed exhaust pipe to the sides the distance must be 500mm
- From an exposed exhaust pipe upwards the distance must be 1000mm



## 2.5 Minimising the safety distances

The safety distances can be cut down by use of insulation:

- by 50% using standard insulation (1mm metal/ fibre shield and 30mm air gap)
- by 75% using double insulation (two shields with air gap)

## 2.6 Safety base for the stove

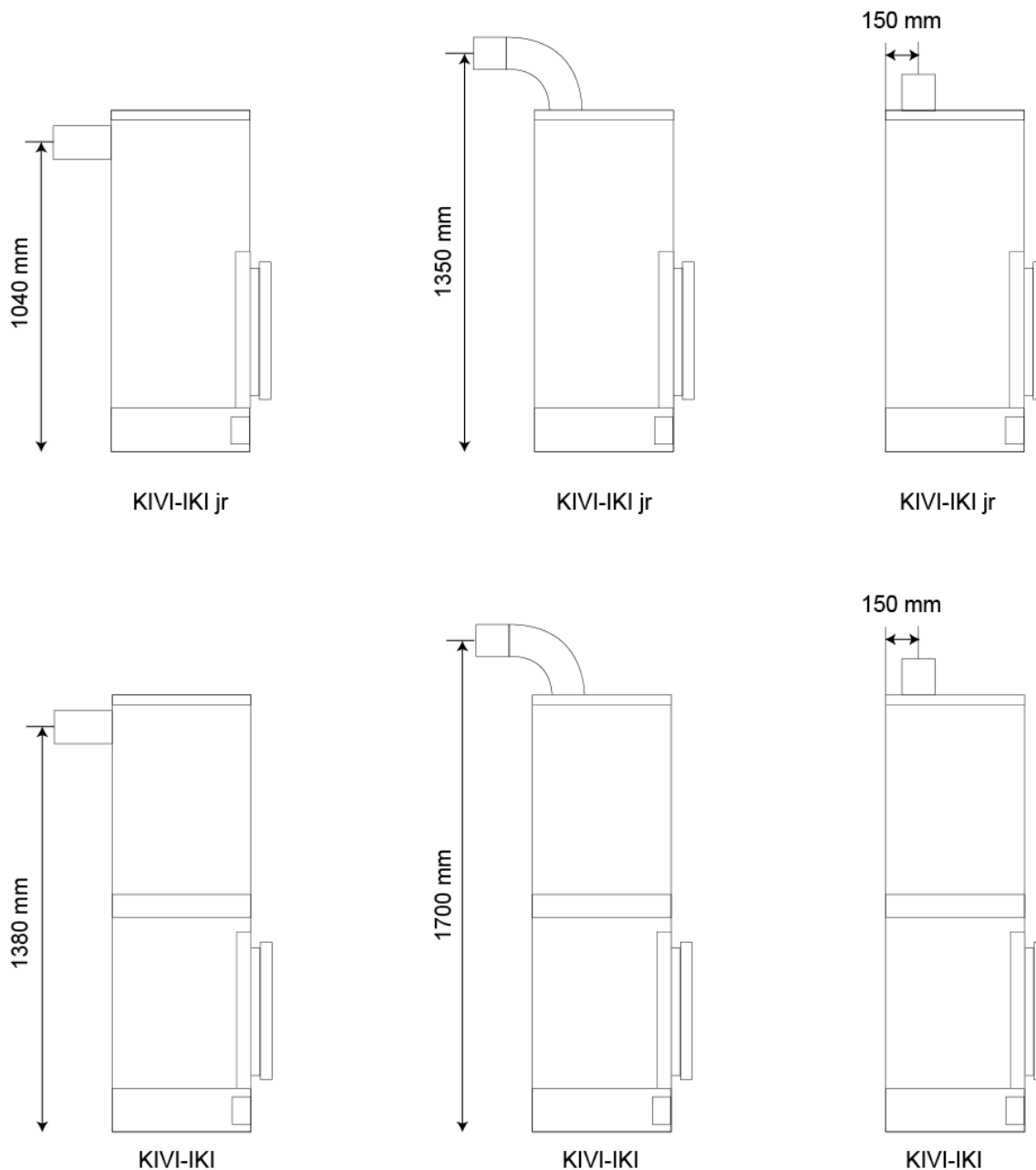
If you wish to place the stove on inflammable surface (such as wood), you need to use a panel of non-flammable material under the stove as a safety base. The size and shape of the safety base has to be equal to safety distances to inflammable surfaces. The floor underneath and in front of the furnace must also be protected with inflammable material.

IKI-Kiuas Ltd has a standard size safety base, 50 cm in diameter, in stock. The base has adjustable legs.

The safety base can be used also with tiled and water-insulated flooring in which case the heat radiation becomes less severe.

## 2.7 Connecting flue and exhaust air pipe

The height of the connecting flue is measured from the floor to the middle of the pipe, without the base or other raised platform, with the furnace on its legs. The outer diameter of the exhaust air pipe in all wood-burning stoves models is 115 mm.



### 3. AIR VENTILATION AND FRESH AIR FLOW

The ventilation needs to be designed to ensure enough fresh air for clean burning and for the sauna-bathers to breathe comfortably. Well-designed ventilation also helps the sauna room dry after bathing. There are many mechanical ventilation systems available by various different manufacturers.

#### 3.1 Gravitational ventilation

The air should be led from outside through a pipe with 50-100 mm grate and charging valve into the proximity of the stove at floor level (50-100 mm above the floor). Fresh air should be led from outside through a 100 mm pipe to about 50-1000 mm above the stove base.

Exhaust air should be led outside of the sauna through a pipe with an adjustable grate and a charging valve, which should ideally be located at the opposite wall to the stove, preferably between the mid and upper benches. The pipe should exit the outer wall just below the roof. The exhaust valve can be located in the ceiling or close to the ceiling at the opposite wall to the stove.

If the in-coming air is led in through a valve in the door between the sauna and washing room or a gap under the door, fresh air needs to be led to the washing room from outside.

The air routes must be kept open during bathing and drying the sauna afterwards. The grates need to be installed so that they cannot get blocked.

As the fire burns in the stove the air circulates in the sauna: the oxygen-rich air flows upwards and warms up and the hot exhaust air is sucked out to the outlet channel through the vent in the opposite wall that leads it outside.

#### 3.2 Mechanical ventilation

Mechanical ventilation assists the air to circulate more efficiently. The principle for the placement of air vents is the same as for gravitational ventilation.

#### 3.3 Flue gas fans and use of multiple furnaces

- We do not recommend the use of a flue gas fan. The high temperature of the flue gas may break the fan.
- If there is more than one furnace in the sauna room, the flue gas of each needs to be led out to individual outlet channels (e.g. a boiler and a stove require a 2-inlet pipe).
- The arrangements for air ventilation need to be considered case by case accounting for the size of the room and the amount of furnaces, and controlled with an adjustable valve.

## 4. INSTALLATION OF THE STOVE

### 4.1 Instructions

Beware of the sharp edges of the stainless steel mesh frame. Use a long-sleeved shirt and protective gloves during the installation and piling of the stones. Take into account all local, national and Europe-wide regulations while installing the stove. The stove should not be installed to a divided chimney.

1. Place the furnace on a sturdy and non-flammable base in the middle of the planned installation spot according to the required safety distances to inflammable surfaces, (page 9).
2. The stove should be installed on concrete or stone floor otherwise it requires a metallic insulating panel. The stove must not be installed on water-insulated or heated floor without an insulating panel.
3. Remove the protective plastic covering.
4. Ensure that the furnace is levelled and the exhaust pipe fits the chimney connection pipe. Use the adjustable legs to level the stove if needed.
5. Pile stones to the lower part of the mesh frame one by one. 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. Take care to cover all the metal parts of the stove. **Note** that the use of soapstone and natural stones is allowed only on the outer edges and on the top of the heater.
6. Set the looped exhaust pipe in place on top of the furnace (image 1).
7. Attach the upper mesh frame so that the top frame fits inside the lower frame (image 2) (excluding the KIVI-IKI Jr.).
8. Set the exhaust pipe to the flue connection.
9. Fill the upper mesh frame with stones (excluding the KIVI-IKI Jr.).
10. Attach the glass hatch to the front of the furnace. The front of the furnace has holes for the bolts to go in (image 3) Use the nuts to fix the bolts from the inside of the hatch (image 4).
11. Put the grate and ash box in place (image 5).

## 4.2 Images



Image 1



Image 2



Image 3

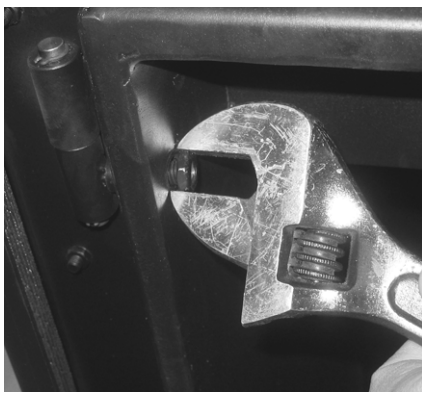


Image 4

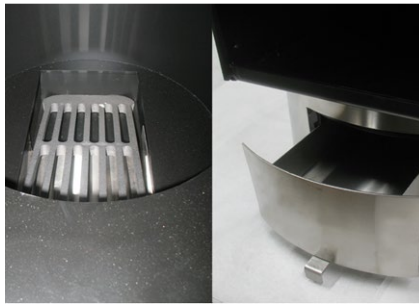


Image 5

**NOTE DURING USE:** The surface of the stones sinks in a little after a while in use. 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.

## 5. INSTRUCTIONS FOR USE

The heating time is approximately one hour, depending on the size of the room and stove. The proper bathing temperature for IKI-stoves is approximately 50-70 degrees.

### 5.1 Setting fire

- Empty out the furnace from left over ash and remains from previous use.
- Open the closing panel in the pipe and make sure there is appropriate airflow.
- Fill the furnace with a maximum of 2/3rds of firewood (3-4 pieces of log).
- Lay the logs loosely in a top right position at the back of the furnace (see image for reference).
- Set fire to the kindling and close the hatch. Adjust draught by pulling the ash box out slightly. Do not burn the furnace with the hatch open.
- When needed, put more wood into the furnace. Use the ash spatula to move the embers for better burning.
- The logs should be about 12-15 cm in diameter. To reach bathing temperature, two logs will suffice.



**NOTE!** The handle on the hatch gets hot during heating. Use the heavy-duty mitten provided to work the handle. Initially it is good to leave the ash box slightly open when setting fire to the furnace to get it going. During bathing, when the temperature is high enough, the ash box can be closed to save wood. Ensure there is appropriate fresh air coming into the sauna. Make sure the grating in the exhaust air vents do not become blocked.

#### Use of wood:

**KIVI-IKI Jr:** Initial load weight 3 kg, additional load 3 pcs, additional load weight 3 kg.

**KIVI-IKI:** Initial load weight 3,5 kg, additional load 4 pcs, additional load weight 3,5 kg.

The hatch should be kept closed to prevent smoke leakage during bathing. Only open it for setting and adjusting the fire and cleaning up.

Use dry clean wood. Humidity of the wood affects the burning result and efficiency. For kindling we recommend birch-bark, manufactured lighting blocks and newspaper.

#### Do not use the stove to burn:

- materials that have a high burning temperature (e.g. chipboard, plastic, coal, compressed wood or woodchip).
- painted or saturated woods.
- trash, PVC, textiles, leather, rubber or disposable diapers.
- compost materials, such as leaves and grass cuttings
- liquid fuels

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## 5.2 Maintenance

Note! The glass hatch will change colour and get darker in use. If the paint wears off, it can be repainted with heat-proof paint (600-degree). Before painting you need to sand down the hatch and wipe the surface clean with a degreaser.

## 5.3 Troubleshooting

IKI-Kiuas Ltd customer support helps out in all stove-related issues. See contact details on page 2. Before calling us, pay attention to the following guidelines:

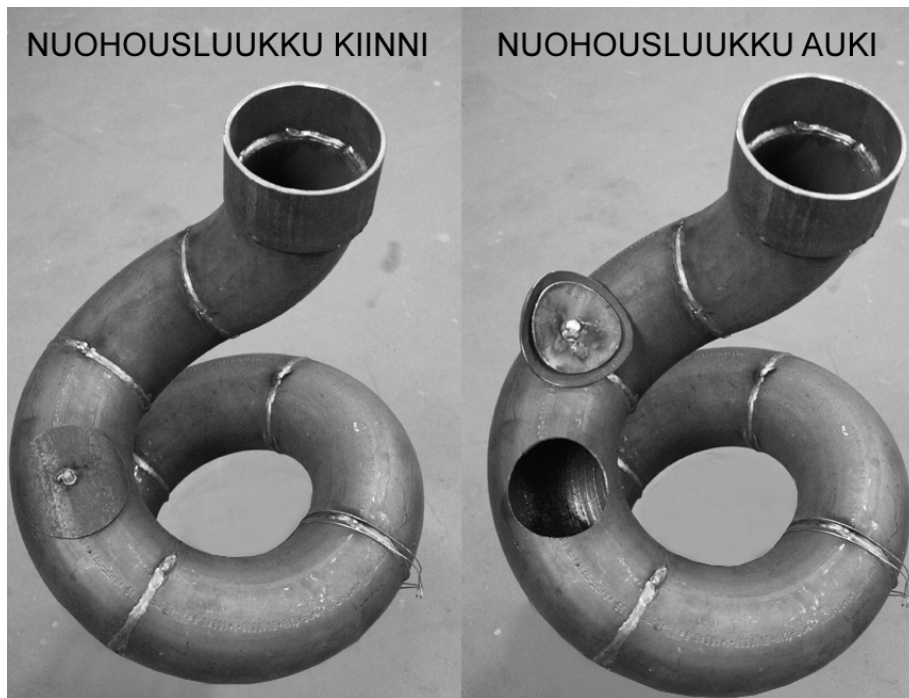
1. Check the warranty from the purchase receipt, (refer to page 4 for details on warranty).
2. Check the troubleshooting guide and see what you should do to attempt to fix the situation.

TROUBLE	HOW TO FIX IT
There is no draught	<ol style="list-style-type: none"> <li>1. Check the chimney is not blocked, and the closing panel in the pipe is open</li> <li>2. Has the chimney been swept as instructed?</li> <li>3. Is low pressure affecting the weather? Burn paper in the furnace and leave the hatch open for a while.</li> <li>4. Check that the kindling and wood are dry</li> </ol>
Too much draught in the furnace	<ol style="list-style-type: none"> <li>1. Close the hatch and ash box</li> <li>2. If the pipe is a long one, adjust the panel in the pipe</li> </ol>
The sauna does not heat up properly	<ol style="list-style-type: none"> <li>1. Is the stove the correct size for the sauna room (heating capacity versus room size, insulation, timber walls, stone and glass surfaces)</li> <li>2. Is the air ventilation designed correctly?</li> <li>3. Are there enough stones and have they been laid correctly?</li> <li>4. Check the condition and quality of the stones: use olivine diabase under 10 cm diameter</li> </ol>
The stones are not heating up properly	<ol style="list-style-type: none"> <li>1. Are there enough stones and have they been laid correctly?</li> <li>2. Check the condition and quality of the stones: use olivine diabase under 10 cm diameter</li> <li>3. Is the wood dry and have you set the correct amount?</li> </ol>

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

### 5.4 Instructions for sweeping

1. Take out the stones until the looped pipe is exposed.
2. Open the sweeping hatch in the looped pipe (no tools required)
3. Use a flexible nylon-brush for sweeping. The use of a metallic sweeper is forbidden, as it may scratch the inner surface of the pipe.
4. Alternatively, use an industrial vacuum cleaner instead of manual sweeping.
5. Spray or pour water use the nylon brush to finish the cleaning.



### 6. WARNINGS

- Use protective gloves and a long-sleeved shirt when handling the mesh frame and while installing and piling the stones
- Staying in the hot sauna for long periods increases body temperature, which may be dangerous.
- Be careful when the stove is heated: The metallic parts and the stones get hot enough to burn skin.
- Do not pour water on the stove when people are near it. The water vapour is extremely hot and can cause burns.
- Prevent children from getting close to the stove.
- Do not leave children, handicapped or ill people to use the sauna without supervision.
- Consult your doctor about any health concerns regarding sauna-bathing.
- Consult child welfare clinic about taking little babies to the sauna.
- Always move carefully in the sauna, as the benches and floors may be slippery.
- Never go to a hot sauna under the influence of alcohol, medication or narcotics.
- Never sleep in a hot sauna.
- Sea-air and a humid climate may corrode the metal surfaces of the heater.
- 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.



## 6. WARRANTY

IKI-Kiuas Ltd. grants its products a warranty according to the following conditions. The manufacturer guarantees the quality and functionality of its products for the duration of the warranty period. The warranty applies to products sold and in use within EU Region. The warranty requires that the buyer of the product follows the manufacturer's 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 warranty duration is two (2) years from the date of purchase of the product. For spa-and public saunas the warranty period is one (1) year, or is determined based on the rate of usage. More information from the manufacturer.

### The warranty for wood-burning stoves 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.
2. In private apartment use, the 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. In case these have been used, the warranty expires.
4. The warranty does not cover dismantlement or reinstallation on sauna benches, removal of sauna stones nor re-piling them.
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. Installation of the replacement part must be carried out by a mechanic, who 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. **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.
7. **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.
8. **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.
9. **Shipping return items is the responsibility of the sender.** The products must be carefully wrapped to prevent damage during transportation. Padding must be 5 cm or more all around the product. Ikikiuas Ltd. recommends using original packing materials, which are expressly designed for safe transportation.
10. Ikikiuas Ltd is not responsible for parts that are damaged during return shipments. Any damages caused by the customer due to erroneous or improper packing and care will be charged from the customer. Ikikiuas Ltd withholds the right to charge the customer for returns without proper cause or against contract. The customer is responsible for handling and shipping costs.
11. **Quality guarantee:** 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.
12. 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 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.





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