



Made by **NARVI Oy Finland**



**Aito AK-47 / AK-57 / AK-57K**  
Installation, use and service instructions

**GB**

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# Aito

## AK-47 / AK-57 / AK-57K

Thank you for having chosen our heat storing Aito sauna heater. To make the most of your sauna heater please read the manual carefully before you start installing and using it.

### 1.1 General information

Aito sauna heater is the traditional heat storing sauna heater, which lets you enjoy steam in its truest form. The stones are heated at once into a red glow, after which the closing pan is closed. The mass of the sauna heater and the amount of stones guarantee long, soft and oxygen-rich steam for many hours.

The sauna heater will be shipped in parts that are ready to be installed. The parts will be assembled without plaster onto the desired spot. **The delivery will include all necessary parts.**

### 1.2 Materials

The casing of the sauna heater is made of stylish black enamel-lined sheet metal. The glassy surface rejects dirt and dust and is easy to maintain clean. Enamelling protects steel and helps to prevent corrosion and at the same

Aito sauna heater	AK-47	AK-57	AK-57K
Nominal power (kW)	25	30	30
Diameter (mm)	470	570	570
Height (mm)	1010	1160	1380
Total weight of the heater (kg)	185	265	300
Weight of stones (kg)	65	95	135
Total weight (kg)	250	360	435
Outer diameter of the connective flue (mm)	150	150	150
Distance of the bottom edge of the connective flue from the floor (mm)	1280*	1460*	1730*
Length of firewood (cm)	32	41	41

\* The height of the connective flue is valid when the sauna heater is at a distance of 50 mm from the flue located in the rear. If the top cover of the sauna heater is turned, the height is to be measured separately.

time strengthens the casing of the sauna heater. The casing is insulated and the insulation is protected with rust-proof sheet metal. The firebox is made of fireproof mass and cast elements. The stone compartment is lined with firebricks. The firebox hatch, the grate and inner lid are made of cast iron. **The sauna heater stones are included in the delivery.**

### 1.3 Sauna heater stones

The sauna heater is delivered with extremely durable ceramic sauna heater stones, which reduce the time of heating and also the firewood consumption is half less than usual. The round shape of ceramic stones also improves draught. As the stones have excellent thermal resistance, the lifetime of the stones is longer.

### 1.4 Area of the steam room

If the walls of a steam room are made of uncovered brick or concrete add 0.8–1.5 m<sup>3</sup> per square meter of such wall and the final choice of the heater shall be made based on the sum of the area.

#### RECOMMENDED AREA OF THE STEAM ROOM:

AK-47	AK-57	AK-57K
8–12 m <sup>2</sup>	9–20 m <sup>2</sup>	11–23 m <sup>2</sup>

If the heater is installed in a sauna that is normally not heated or the sauna is made of massive logs, multiply the sauna area with 1.5 and choose the heater based on this.

For sauna heaters AK 57K–AK 110 the recommended height of the sauna is 2700 mm as a minimum, so the sauna bench remains high enough from the surface of the sauna heater. A space with a minimum size of one meter must be left in front of the sauna heater to facilitate maintenance of the firebox.

### 1.5 Substrate

AK sauna heaters must be installed on a stable, fireproof base. NB! The surface temperature of the floor tiles under the sauna heater may increase to 250° C. Such temperature may damage the moisture barrier if it is installed under the sauna heater or the underfloor heating.

### 1.6 Smoke flue

**NB! When connecting the sauna heater with the smoke flue it has to be ensured that no excessive load is applied on the sauna heater.**

#### MASONRY SMOKE FLUE

According to the requirements of part E3 of the Building Act concerning smoke flues, a masonry smoke flue must

be the so-called half-brick flue, the minimum length of which measured on the smoke heater is 3 meters.

#### MODULAR FLUE

A modular flue must meet the requirements of class T600 and provided with CE-marking. When installing a modular flue safety clearances stipulated in the installation manual of the flue shall be followed.

The diameter of the modular flue shall be 150 mm.

### 1.7 Safety clearances to combustible structures

Safety clearances of wood-burning sauna heaters to combustible structures without additional shielding:

AK-47 / AK-57 / AK-57K	
Front surface	1 000 mm
Side surfaces	500 mm *
Back surfaces	500 mm *
Top surface	1 200 mm **

\*) The safety clearance can be reduced by 50% when a single light protective screen is used and by 75% when a double light protective screen is used.

\*\*) The safety clearance can be reduced by 25% when a single light protective screen is used and by 50% when a double light protective screen is used.

**A single light protective** screen can be made of a non-combustible, fibre-reinforced cement plate that is at least 7 mm thick or a metal plate that is at least 1 mm thick, which is attached to the wall sufficiently tight. An air gap of at least 30 mm must be left between the protective screen and the plate.

**A double protective** screen can be made of two 7 mm thick non-combustible, fibre-reinforced cement plates or two metal plates with a minimum thickness of 1 mm. The plates are fastened with screws to the base and if required also with one another. An air gap of at least 30 mm must be left between the protective screen and the plate and also between both plates.

### 1.8 Fuel

Dry and clean wood must be used as fuel. Both hardwood and softwood can be used to heat the sauna heater. Dry wood heats the sauna heater the best and ensures the best efficiency.

Chipboard, fibreboard, painted and treated wood, waste and plastics are **not allowed to be used as fuel**.

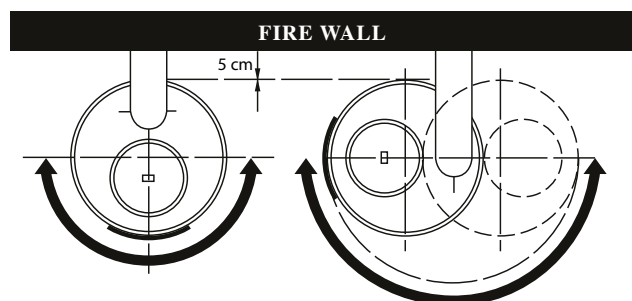
## 2. Installation

### GENERAL

No mortar should be applied for installing brickwork. The bricks must simply be placed carefully on one another. Before stacking stones in the sauna heater all stones should be rinsed with water to remove dust. The sauna heater must be placed so that there is an air gap with a minimum size of 5 cm between the sauna heater and the fire wall. Other safety clearances must meet the requirements stipulated in the part "Safety clearances" (page 3).

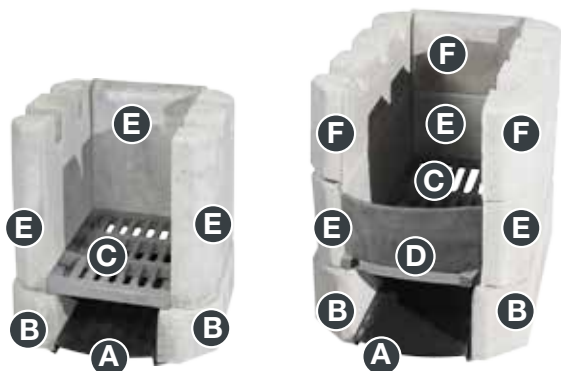
### 2.1 Opening direction of the firebox

When installing the base, the opening direction of the firebox must be determined. Remember that once the flue is connected it should be possible to turn the top cover of the sauna heater as shown on the drawing below.



When the location of the sauna heater and the opening direction of the firebox have been determined, start assembly from the bottom.

### 2.2 Assembly of the bottom part



- |  |  |
|--|--|
| <p>A. Place the ash drawer base in its place, edges under the bottom elements</p> <p>B. Bottom elements (2 pcs)</p> <p>C. Grate</p> <p>E. Bottom side elements (2 pcs) and bottom back element</p> | <p>A. Place the ash drawer base in its place, edges under the bottom elements.</p> <p>B. Bottom elements (2 pcs)</p> <p>C. Grate</p> <p>D. Fire plate</p> <p>E. Bottom side elements (2 pcs) and bottom back element</p> <p>F. Upper side elements (2 pcs) and the upmost back element</p> |
|--|--|

Assemble the bottom part of the sauna heater in the sequence described above. Remember to consider with the opening direction of the firebox. Once all elements are assembled verify that the surface is level.

### 2.3 Bottom cover and valley elements



- A. Install the bottom cover.  
 B. Install valley elements.  
 (AK-47: 2 pcs, AK-57 and AK-57K: 4 pcs)

### 2.4 Raising element (only for model AK-57K)



- A. Install the raising element (includes ready-installed insulation and a stainless steel inner layer).  
 Only for model AK-57K. **When assembling a sauna heater AK-47 or AK-57, skip this part and continue with the next step.**

## 2.5 Top cover



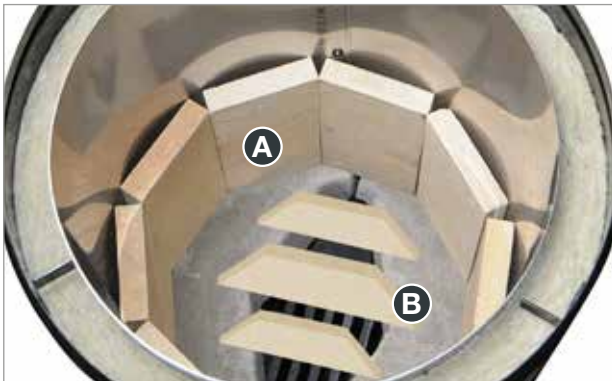
- A. Install the top cover (includes ready-installed insulation and a stainless steel inner layer).

Do not complete the first layer fully before the first heating. During heating add stones in places that start glowing first. The first layer functions as an adjustment layer. To reduce excessive draught add stones in the first layer.

The amount of stones is sufficient when some are left over. Not all stones should be placed in the sauna heater. When the draught of the sauna heater is poor and heating takes very long, check whether the stones are not stuck too tightly. Wood that is moist or of poor quality also prolongs the heating time.

**In case of questions regarding installation of sauna heater stones or arches, please contact us: NARVI Oy 020 741 6740 or Kerkes Oy 050 373 1313**

## 2.6 Firebricks



- A. Firebricks must be laid in two layers. Lay the first layer of firebricks vertically along the edges. When the bricks do not fit well, cut one brick in half and make the brick layer tight.
- B. Place the arches. Check that the arches are tightly in place and lay the sauna heater stones (balls with the diameter of 100 mm) on the arches starting with bigger stones.

## 2.8 Cast iron lid and insulation wool



- A. Place the cast iron lid with the closing pans.
- B. Do not forget to place a piece of insulation wool included in the delivery on top of the cast iron lid.

Also the space between the cast iron lid (edges) and sauna heater casing must be insulated with wool. This prevents accumulation of soot on the upper part of the sauna heater and keeps heat better in the sauna heater.

## 2.7 Stacking sauna heater stones

### 100 MM BALLS

Place 100 mm balls in the bottom. Smaller balls may be used for supporting the edges of the structure.

### 80 MM BALLS

Next place 80 mm balls. As the height increases, also continue with stacking the sauna heater stones.

### 60 MM BALLS

Place 60 mm balls evenly on top of 80 mm balls.

### TETRA-STONES

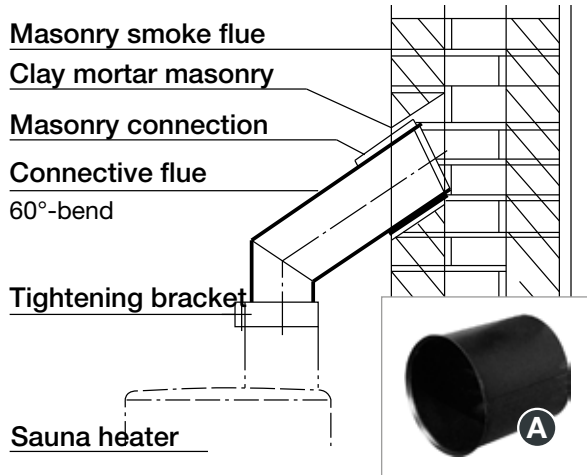
Lay small tetra-stones in the upper layer.

## 2.9 Sheet metal cover and fastening of the connective flue



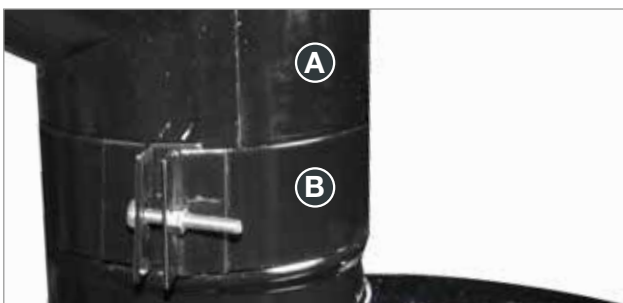
- A. As a next step install the enamel-lined sheet metal cover.  
Check that insulation placed on top of the cast iron cover does not restrict the correct position of the sheet metal cover.
- B. Install the fastening of the connective flue.

## 2.10 Masonry connection and flue connection



Install the masonry connection (A) in the flue. The flue connection must be made according to the above drawing. Fasten the connective flue delivered with the sauna heater to the fastening of the connective flue with a tightening bracket so that the shorter end of the pipe always faces the sauna heater. Otherwise the pipe will not reach the flue and also the height of the connective flue will not be the same as stated in the description.

## 2.11 Connective flue and tightening bracket



- A. Place the connective flue in the right place and tighten, if needed.
- B. Connect the connective flue with the sauna heater with the tightening bracket.

A connective flue delivered with Aito sauna heater can also be provided with enamel-lined extension pipes.  
Extensions: 400 mm, 600 mm or 1000 mm.

## 2.12 Steam hatch and ash drawer



- A. Install the steam hatch.
- B. Install the ash drawer.

# 3. Heating

## 3.1 First heating

Once the sauna heater has been installed, do the first heating which must be done with half capacity and thereafter allow the sauna heater to cool, so that the bricks and stones settle down. The first heating also removes any possible humidity from the bricks, which might increase the heating time of the sauna heater. If the upper stones do not become evenly hot, add small stones to the hot spots to get an even draught in the whole upper surface of the stone compartment.

## 3.2 Heating

Open the ash drawer 5-10 cm. See that sufficient volume of combustion air enters in the sauna either from the valve or through the door.



To ensure correct travel path of smoke, open the valve in front of the closing plan, open the closing pan and close the valve in front of the closing pan as shown on the above drawing. Check that the flue is open.

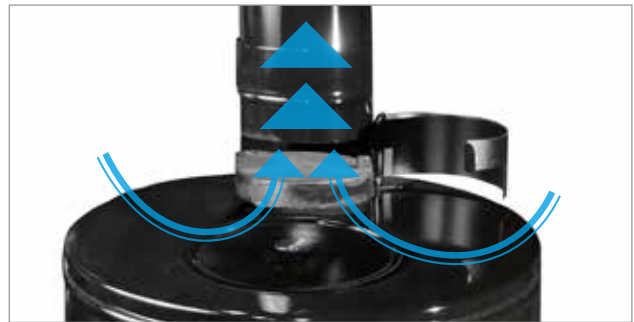
The heating time depends significantly on the wood quality. The fastest method to heat the sauna heater to the temperature suitable for steam procedures is to use finely cut birch wood that is dry. Fill the firebox with wood as usual and light it from above. During burning the fire box hatch should be kept closed and the ash drawer opened. When more than half of the wood has been burned, continue refilling the firebox sufficiently often. Towards the end of heating the draught can be reduced with the help of the ash drawer.

Heating is stopped, when the lower parts of the upmost stones start glowing red. For the last fill of the firebox we recommend using small firewood, which burn up quickly and do not leave coal glowing long. To prevent soot problems, AITO sauna heater should always be heated so hot that the lower halves of the upper stones glow red.

When there are almost no embers left, push ash on the grate in the ash drawer. The ash drawer should be emptied. Now close the ash drawer, firebox hatch and the closing pan and the valve in front of the closing pan. After this the glowing redness spreads to the upper surfaces of the stones and the stones become free from soot. Let the sau-

na heater stay like this for a while so that heat will spread evenly in the area and the sauna heater is ready for the steam bath ("löyly").

Before starting enjoying your sauna throw the first "löyly", which removes any ash dust on the stones and the next "löyls" will already be cleaner. **The first "löyly" is thrown with the closing pan open and the valve in front of the closing pan closed. In this way any ash on the stones is directed in the stack via the flue.** After this the sauna is ventilated.



If there is no ventilation valve in the upper part of the sauna, the sauna can, when necessary, be ventilated by closing the steam hatch and by opening the valve in front of the closing pan. In this case the closing pan must be closed (see the drawing below). This method can also be used for drying the sauna after the bathing procedure.



**Due to the risk of carbon monoxide, it is strictly forbidden to heat the heat storing sauna heater additionally during the bathing procedure.**

If for some reason the sauna heater requires additional heating, the bathing procedure should be interrupted and the sauna heater should be heated once again. The bathing procedure can be continued only when there are no flames and embers left, the ash drawer has been emptied and the first "löyly" has been thrown according to the instructions.



The sauna heater is ready for the bathing procedure when the first "löyly" has been thrown, the opening pan and the valve in front of the opening pan is closed and the steam hatch is open (see the above drawing).

To start the bathing procedure open the steam hatch. Throw "löyly" in small quantities. The mass of the sauna heater and the amount of stones guarantee long, soft and oxygen-rich steam for many hours.

**Enjoy your sauna!**

## 4. Cleaning and maintenance

### 4.1 General cleaning

The sauna heater does not require any specific maintenance, the only procedures required are to empty the ash drawer and to ask the chimneysweep to clean the system. Removal of ash after each heating improves burning efficiency and prolongs the life-time of the grate.

For easy maintenance of the enamel-lined sauna heater clean it with water and a soft cloth.

### 4.2 Replacement of sauna heater stones

The lifetime of ceramic sauna heater stones is significantly longer than of the natural stones. In addition they also heat up much more quickly. Thereat we recommend using ceramic stones in the sauna heater.

Yet the sauna heater stones should be periodically checked and friable stones should be replaced.

**More specific instructions regarding Kerkes ceramic stones can be found in part 9.**

When you are not going to use your sauna heater for a longer period, clean it from soot and ash. To facilitate drying, the steam hatch and firebox hatch should be left open.

## 5. Soot fire



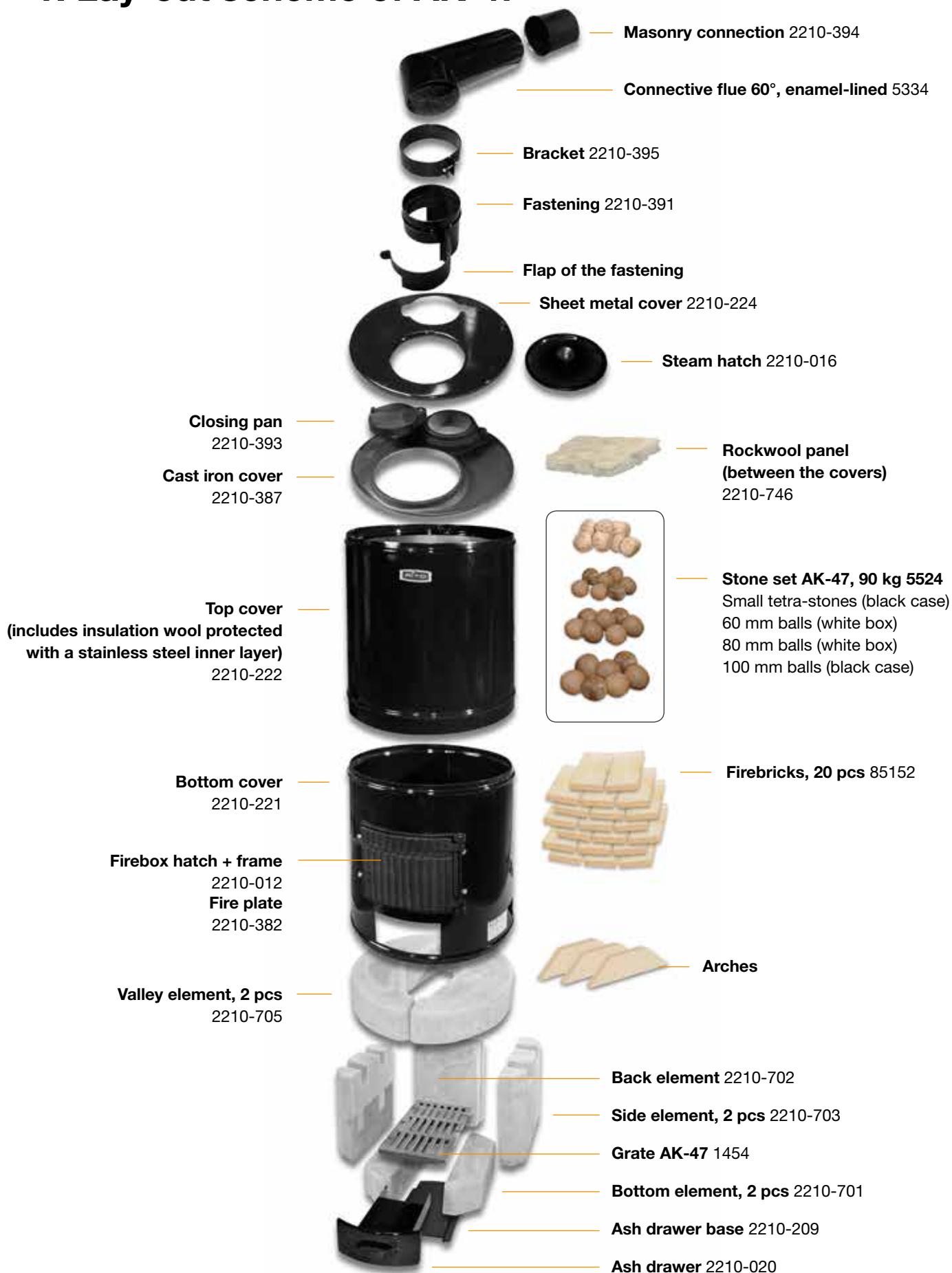
**IN CASE OF SOOT FIRE (ALSO IF IT HAS ALREADY BEEN EXTINGUISHED) ALWAYS NOTIFY THE EMERGENCY CENTRE!**

## 6. Warranty

**Pursuant to consumer protection legislation Aito sauna heaters' warranty period is one year.**

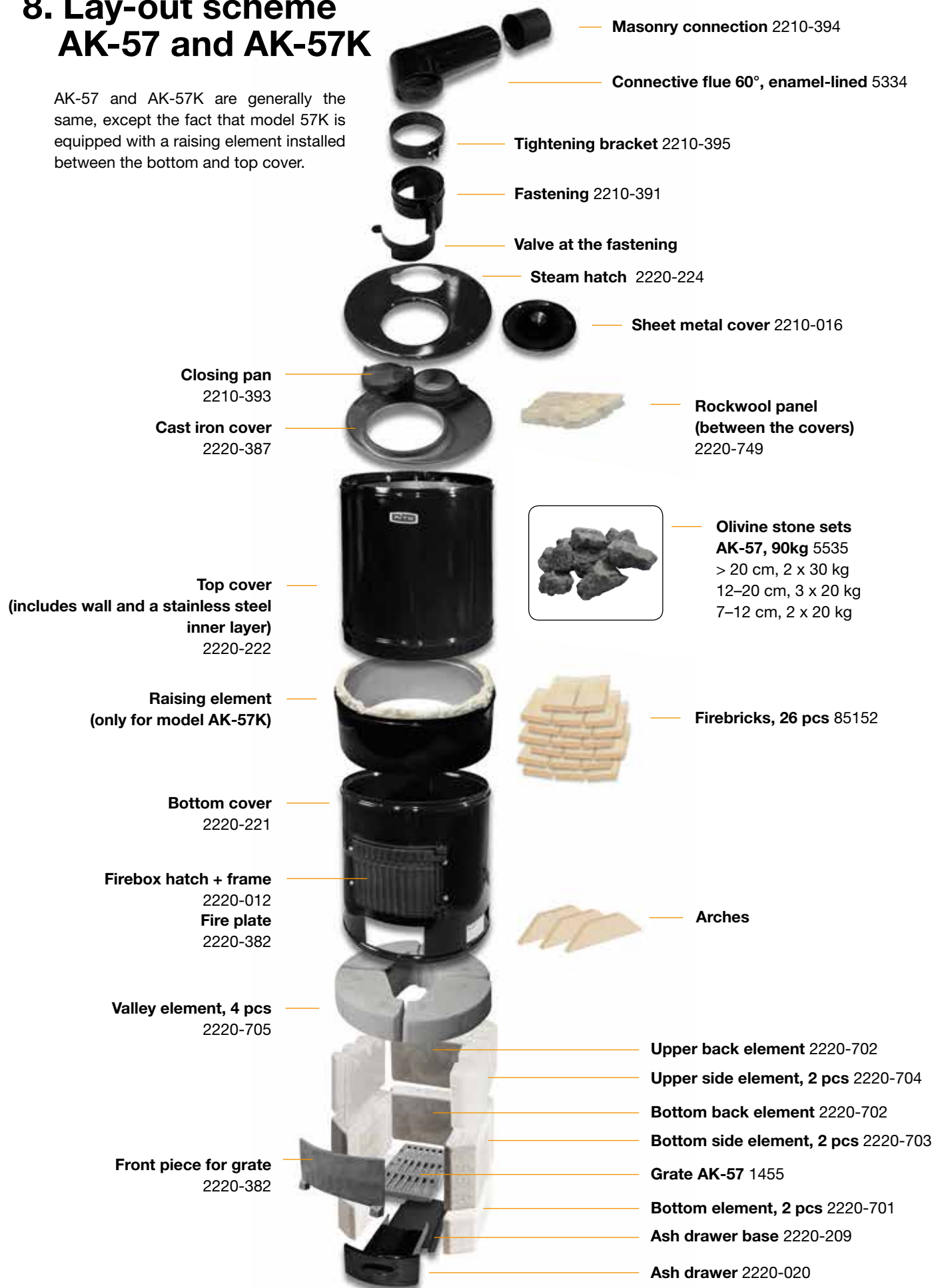
Do not modify the structure of the product! Use only accessories approved by the manufacturer with this product! Failure to comply with the manual or fire safety regulations can result in a fire or damage to the sauna heater. More detailed information about the fire safety regulations can be obtained from the regional branch of the rescue board, for instance.

## 7. Lay-out scheme of AK-47



## 8. Lay-out scheme AK-57 and AK-57K

AK-57 and AK-57K are generally the same, except the fact that model 57K is equipped with a raising element installed between the bottom and top cover.



## 9. Stone sets

### 9.1 AK-47 Kerkes ceramic stones

Stone	Package	Per sauna heater
Ball 100 mm	10 kg case	10 kg
Ball 80 mm	20 kg, white box	20 kg
Ball 60 mm	20 kg, white box	20 kg
Small tetra-stones	10 kg case	10 kg
Arches	Package	
AK-47 box with arches	On one side of the case: "AK-47 arches and laying instruction"	
<b>IN TOTAL</b>	<b>5 boxes</b>	<b>60 kg</b>

### 9.2 AK-57 Kerkes ceramic stones

Stone	Package	Per sauna heater
Ball 100 mm	1 x 20 kg, white box	20 kg
Ball 80 mm	2 x 20 kg, white box	40 kg
Ball 60 mm	1 x 20 kg, white box	20 kg
Small tetra-stones	1 x 10 kg, case	10 kg
Arches	Package	
AK-57 box with arches	In the white box: "AK-57 arches and laying instruction"	
<b>IN TOTAL</b>	<b>6 boxes</b>	<b>90 kg</b>

### 9.3 AK-57K Kerkes ceramic stones

Stone	Package	Per sauna heater
Ball 100 mm	1 x 20 kg, white box	20 kg
Ball 80 mm	4 x 20 kg, white box	80 kg
Ball 60 mm	1 x 20 kg, white box	20 kg
Small tetra-stones	1 x 10 kg, case	10 kg
Arches	Package	
AK-57 box with arches	In the white box: "AK-57 arches and laying instruction"	
<b>IN TOTAL</b>	<b>8 boxes</b>	<b>130 kg</b>

### 9.4 Olivine stone sets

	Package / quantity of stones		
Sauna heater	AK-47	AK-57	AK-57K
Product number	5534	5535	5536
> 20 cm	1 x 30 kg	2 x 30 kg	2 x 30 kg
12–20 cm	2 x 20 kg	3 x 20 kg	6 x 20 kg
7–12 cm	1 x 20 kg	2 x 20 kg	2 x 20 kg
<b>IN TOTAL</b>	<b>90 kg</b>	<b>160 kg</b>	<b>220 kg</b>