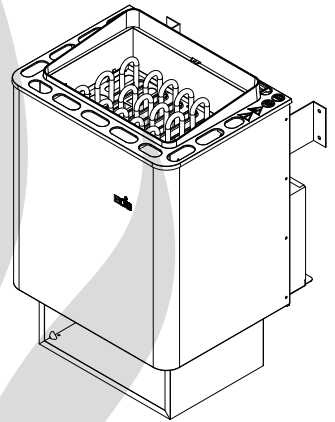


THERMAT

Sauna Heater



EN

Installation and operation instruction

MADE IN GERMANY

 **IP x4**



English

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Dear customer,

You have purchased a high-quality technical device with which you will have years of sauna fun. This sauna heater was designed and inspected according to the current European safety standards and manufactured at the factory in accordance with the quality management standard DIN EN ISO 9001:2008.

This detailed installation and operation manual has been prepared for your information. Please in particular thoroughly read the **important notes** and the information on electrical connection.

We wish you exhilarating recreational experience and lots of fun with your sauna!

Intended use

This sauna heater is exclusively intended for the heating of sauna cabins in combination with an appropriate control unit.

Any other use over and above the intended purpose is not considered as appropriate use! Compliance of the standard operation, maintenance and repair conditions is also an element of appropriate use.

The manufacturer cannot be held liable for deviating, unauthorized alterations and any resulting damages: the initiator of these changes bears the full risk.

General information

Please check whether the unit has arrived in perfect condition. Any transport damages should be immediately reported to the freight forwarder delivering the goods or you should contact the company that shipped the goods.

Please note that you will only be able to achieve an optimum sauna climate if the cabin with its air intake and ventilation, the sauna heater and the control unit are aligned to each other.






Please observe the information and stipulations made by your sauna supplier.

Sauna heaters heat up your sauna cabin using heated convective air. Here, fresh air is drawn in from the air intake which, when heated, rises upwards (convection) and is then circulated within the cabin. Part of the used air is pushed out through the vent in the cabin. This creates a typical sauna climate which can achieve temperatures of approx. 110°C measured directly under the ceiling of your sauna, dropping in temperature to approx. 30-40°C towards the floor. It is therefore not unusual to measure temperatures of 110°C on the temperature sensor hanging over the heater, whilst the thermometer hanging on the sauna wall, approx. 20-25 cm under the cabin ceiling, only indicates 85°C. The bathing temperature generally lies between 80°C and 90°C in the area of the upper bench when the temperature is set to maximum.

Please note that the highest temperatures are always generated over the sauna heater and that the temperature sensor and the safety limiter must be mounted there in accordance with the control unit installation instructions.


When heating up for the first time, you may notice a slight smell caused by evaporating lubricants used in production processes. Please ventilate your cabin before beginning your sauna bath.

Important notes




-  Unprofessional installation may cause a fire hazard! Please read these installation instructions carefully. In particular, please observe the dimensions stated and the following notes.
- This device can be used by children aged 8 upwards and by persons with physical, sensory, or mental disabilities, or who have inadequate experience and knowledge if they are supervised or if they have received adequate instruction in how to use the device safely and understand the associated risks. Children may not play with this device. Children may not clean or carry out any user maintenance if unsupervised.
- Children should be supervised to make sure that they will not play with the unit.
-  Only specialists may install and connect the sauna heater, control unit and other electrical equipment with a fixed mains connection. The necessary protective measures according to VDE 0100 of § 49 DA/6 and VDE 0100 part 703/2006-2 must be observed.
- Sauna heater and controller may only be used in sauna cabins made of suitable, low-resin, untreated materials (e.g. spruce).
- Only a sauna heater with the appropriate power output may be installed in the sauna cabin.
- Please provide air intake and vent openings in each sauna cabin. The air intakes must always be positioned behind the sauna heater, approx. 5 to 10 cm above the floor. The minimum dimensions of the air intake and vent openings are stated in the table.
- The duct vents are always to be positioned offset diagonally to the sauna heater in the lower area of the rear sauna wall. The air intake and vents may not be covered. Please observe the sauna cabin supplier's instructions.
- Only the control units specified herein must be used for the operation of the sauna heater. This control unit must be positioned at an appropriate point on the cabin outer wall; the associated sensor must be positioned inside the sauna cabin according to the installation instructions included with the control unit.
-  **Caution:** Covering the heater or an incorrectly filled stone container represent a fire hazard.
- The sauna heater must be visually inspected before each use (also by remote control) for a safe condition.
-  Every time before the sauna is used, ensure that no objects have been left lying on the sauna heater.
-  **Caution:** The high sauna heater



temperatures generated during operation can cause burns.

- The sauna heater is not intended for installation or set-up in a niche, under a bench or under a sloping roof.
- Do not put the sauna heater into operation when the air intake is closed.
- The cabin lighting and the corresponding installation must correspond with the "splash protected" version in accordance with DIN EN VDE 0100 T 703. Therefore, only VDE-tested sauna light with max. 40 Watt may be installed in connection with the sauna heater.

-  Only a locally certified electrician may connect the sauna facility (sauna heater, control unit, lighting etc.) to a fixed mains connection.
- All electrical installations and all connection lines that are installed inside the cabin must be suitable for an ambient temperature of at least 170 °C. If single-wire cables are used as connection lines, they must be protected using a flexible metal tube connected to the equipment grounding conductor. Please see the table for the minimum cross-section of the connection cable and the suitable cabin size in relation to the power input in kW.
- When installing the sauna heater, please ensure that the vertical clearance between the sauna heater upper edge and

the sauna ceiling is maintained. Please see also the dimensions diagram for the clearance between the lower edge of the sauna heater and the floor. On heaters with bases, this clearance is maintained via the base or legs of the device.

- Floor heating in the sauna cabin increases the surface temperature of the flooring.
- Please see the dimensions information for the respective sauna heater for the clearance between the heater protective grating or the bench and other flammable materials. The heater protective grating must roughly accord with the front height of the sauna heater.
- Please also observe the information and instructions provided by the cabin manufacturer.
-  Please take precautions when cleaning components with sharp edges.
- Upright heaters need to be fitted on site with elements that prevent them from overturning.
-  **Attention:** Pour the infusion water only on the sauna rocks and never anywhere else.
-  When using your sauna in a dry Finnish mode never add sauna essences or place any herbs into the vaporizer holder for essences/herbs. **Fire hazard!**

-  Never add more essences or volatile oils than advised on the packaging. Never use alcohol or undiluted concentrates. **Caution! Fire hazard!**
-  When designing the cabin ensure that the external exposed glass surfaces only reach a maximum temperature of 76°C. If necessary, protective features need to be fitted.
- Please note that the wooden surfaces in the areas exposed to high heat are subject to possible discolourations (e.g. darkening of wood).

**Remote control – means settings, switching, control and adjustment of the sauna control unit by means of commands transmitted from a remote location beyond sight distance using telecommunication, wire- or wireless signal transmission systems, network and similar systems.*

Electrical connection

Using the above-mentioned wiring diagram and the information on the wiring circuit adhered to the respective control system, your electrician will be able to connect the system without further instructions.

Please note that, for safety reasons, power cables may not be laid visibly on the interior walls of the cabin. Most sauna cabins have empty ducts fitted into the wall element with the air intake.

If no empty ducts are available in your cabin, drill a sufficiently sized hole in the cabin wall directly next to the place where the cable exits the sauna heater and guide this cable outside through the hole to the control unit. The cable, and all other connecting cables (mains power cables and cabin lighting), should be installed in installation ducts or also be protected against damage on the outside of the cabin e.g. by laying them in installation pipes or attaching wood cover strips.

The sauna heater, when made use of time preset and remote control*, may only be used with an appropriate cover protection or any other safety device.

Caution!

Dear Customer,
In compliance with the valid regulations, only certified electricians may connect the sauna heater and the sauna control system to the mains power supply.

Please note that you must provide a copy of the invoice from the electrical company who installed the sauna in case of a warranty claim.

To preserve the right of a warranty claim, only original spare parts of the manufacturer may be used.

Scope of delivery

Please verify upon delivery that all components included in the standard scope of delivery are available. Missing parts shall be reported to your local dealer (supplier).

Standard delivery includes:

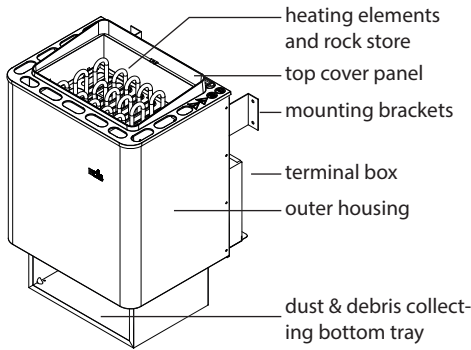
- 1 sauna heater
- 1 wall-mounting bracket
- 1 accessory pack with
 - 1 cable gland PG16
 - 3 self-tapping screws B 4.2 X 9.5
 - 4 mounting screws (spax screws)
- 1 set of sauna stones
- Installation and operation guide

Technical Specifications

Nominal voltage	400 V 3 N 50 Hz AC (connection to 230V 1N AC power supply possible*)			
Power rating	4.5 kW	6.0 kW	7.5 kW	9.0 kW
For sauna size	6 - 8 m ³	6 - 8 m ³	7 - 10 m ³	9 - 14 m ³
Min. size air inlet and exhaust vent	35 x 3 cm	35 x 4 cm	35 x 5 cm	35 x 6 cm
Height	580 mm (755 mm with obligatory 180 mm floor gap)			
Width	375 mm			
Depth	380 mm			
Stone volume	Up to 15 kg sauna stones			
Power extension (LSG)	Not required			
Suitable control units	Econ D series, Emotec / EmoStyle D series, EmoTouch			
Leakage current	max. 0,75 mA per kW heating power			
Intended use	Sauna heater for use in residential (domestic) saunas			

* Connection to 230V 1N AC only in combination with the compatible sauna control unit. Make sure to observe the deviating special connection scheme.

Installation



Note:

The sauna heating unit is designed for a default supply voltage of 400 V AC 3N.

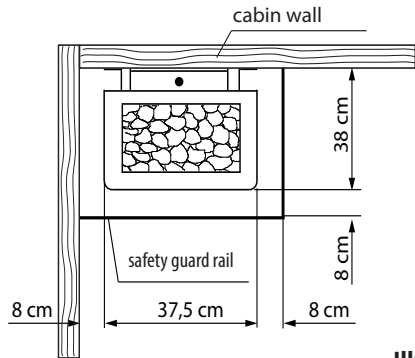
Connection to a 230V 1N AC power supply is only possible with a compatible version, including a compatible sauna control unit and under observation of a special connection scheme (available on request).

Minimum clearances

The minimum height of the sauna cabin must be 1.90m on the inside.

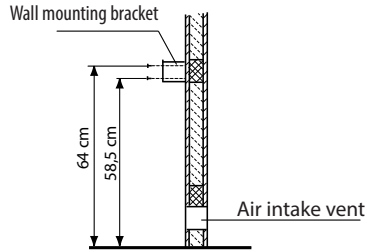
The vertical clearance between the upper edge of the sauna heating unit and the sauna ceiling is at least 90 cm.

Make sure to observe the safety gaps to flammable objects on the sides as shown in the Ill. 1.

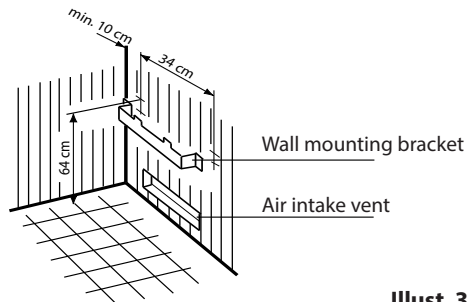


Illust. 1

1. Center the wall-mounting bracket over the air intake vent as shown in the Illust. 2 + 3 and screw it onto cabin wall with the spax screws from the delivery scope.



Illust. 2



Illust. 3

Attention! Make sure to provide an air intake vent below beneath the sauna heater. The air intake vent and the exhaust air vent should have the appropriate size as per heater power:

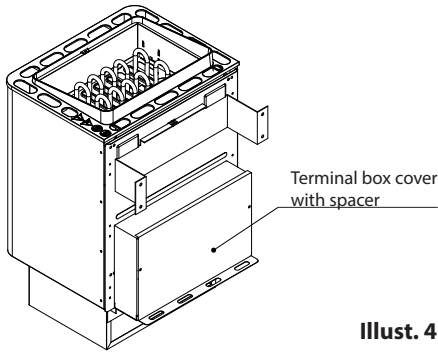
4.5 kW	35 x 3 cm
6.0 kW	35 x 4 cm
7.5 kW	35 x 5 cm
9.0 kW	35 x 6 cm

Make sure there is a stable fresh air supply through the air intake vent.

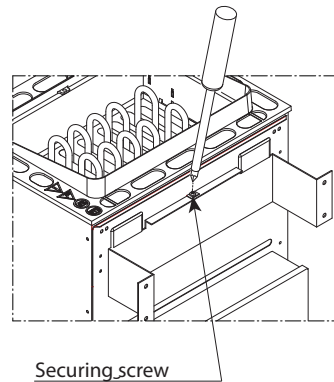
The lack of the sufficient fresh air supply may cause overheating and lead to damages of the sauna heater. The warranty will be void in such case.

2. Open the terminal box at the rear side of the heater and connect the power supply cable in accordance with the connection diagram (see chapter Electrical Connection) as per power supply type. The default connection diagram is also attached inside terminal box of the heater. **ATTENTION: In the case of connection to a 230V 1N AC power supply disregard the default connection diagram and refer to the special separately available connection scheme.**

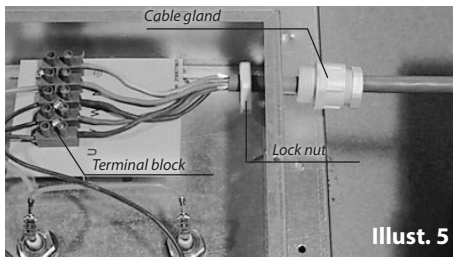
3. Close the terminal box with cover using 2 fixation screws. Observe that the integrated spacer faces outwards. See Illust. 4 for details.
4. Hook the sauna heater into the wall mounting using the mounting slots on the rear wall. Make sure that the heater securely hangs on the mounting bracket and the spacer at the terminal box has a full contact to the sauna wall. See Illust. 6. Observe that the 18 cm floor gap is maintained.
5. Fasten the sauna heater to the wall mounting through the hole located on the rear edge of the oven using self-tapping screw (Illust. 7).



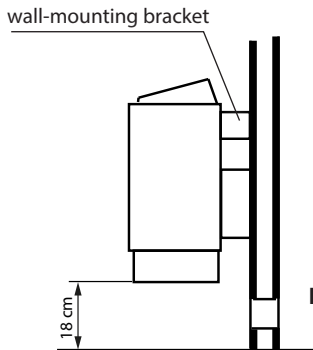
Illust. 4



Illust. 7

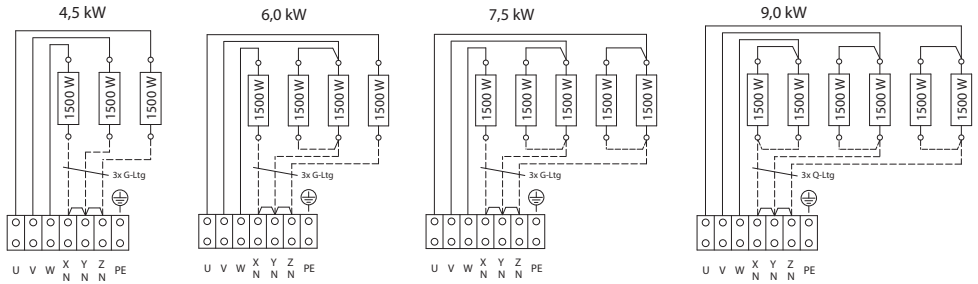


Illust. 5



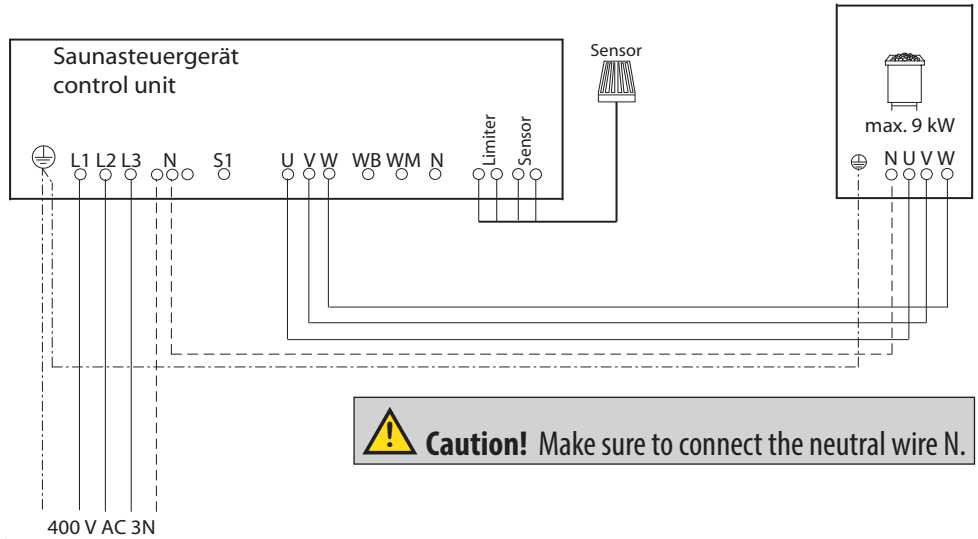
Illust. 6

Inner wiring and heating elements



Connection example for 400V 3N AC

Default connection



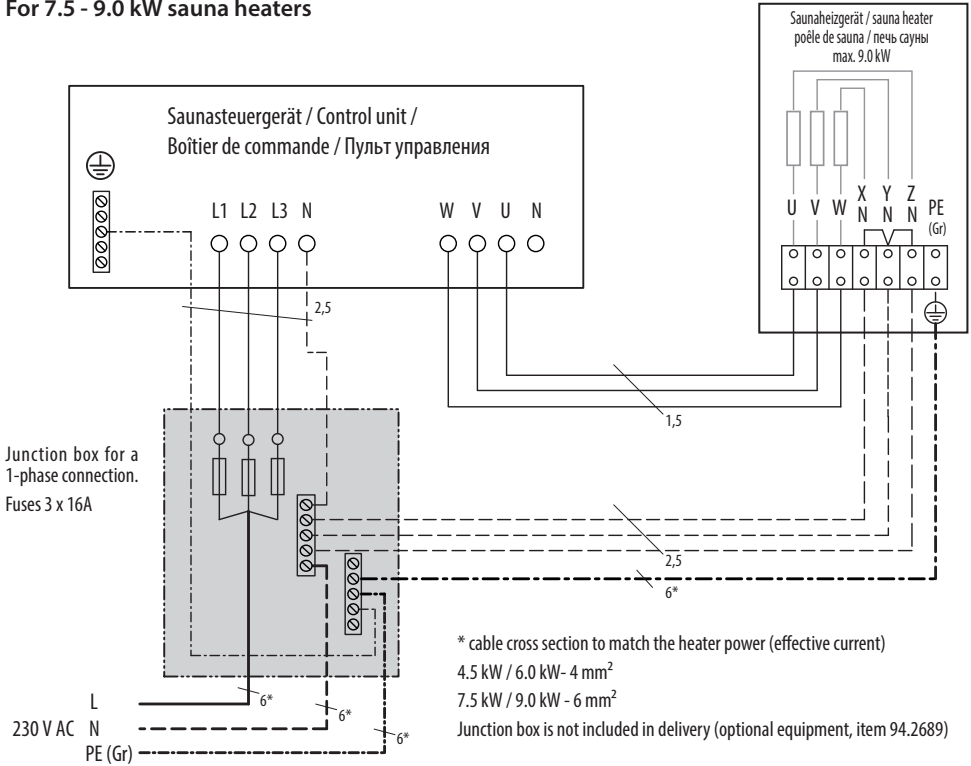
Specifications for default connection 400V 3N AC

Power acc. DIN	Electrical connection	Fuse control unit in A	Minimum dimensions of air intake and exhaust vents	Connecting cable main - control unit in mm ²	Connecting cable control unit - heater in mm ²	Power extension (LSG) needed	For operation with control units
4,5 kW	3N AC 50 Hz 400 V	3 x 16	35 x 3 cm	5 x 2,5 mm ²	5 x 1,5 mm ²	no	Econ D-series Emotec D-series EmoStyle D-series EmoTouch
6,0 kW			35 x 4 cm				
7,5 kW			35 x 5 cm				
9,0 kW			35 x 6 cm				

All cross sections of a line are minimum diameters in mm² (Copper line). All cross sections are given solely for 400V 3N power supply!

Connection example for 230V 1N AC

For 7.5 - 9.0 kW sauna heaters



Attention! By connection to a 230V 1N AC make sure that both the sauna heater and the control unit are suitable for such connection. Make sure to use a proper fuse protection and suitable connection cable. Risk of fire and damages to hardware by improper connection!

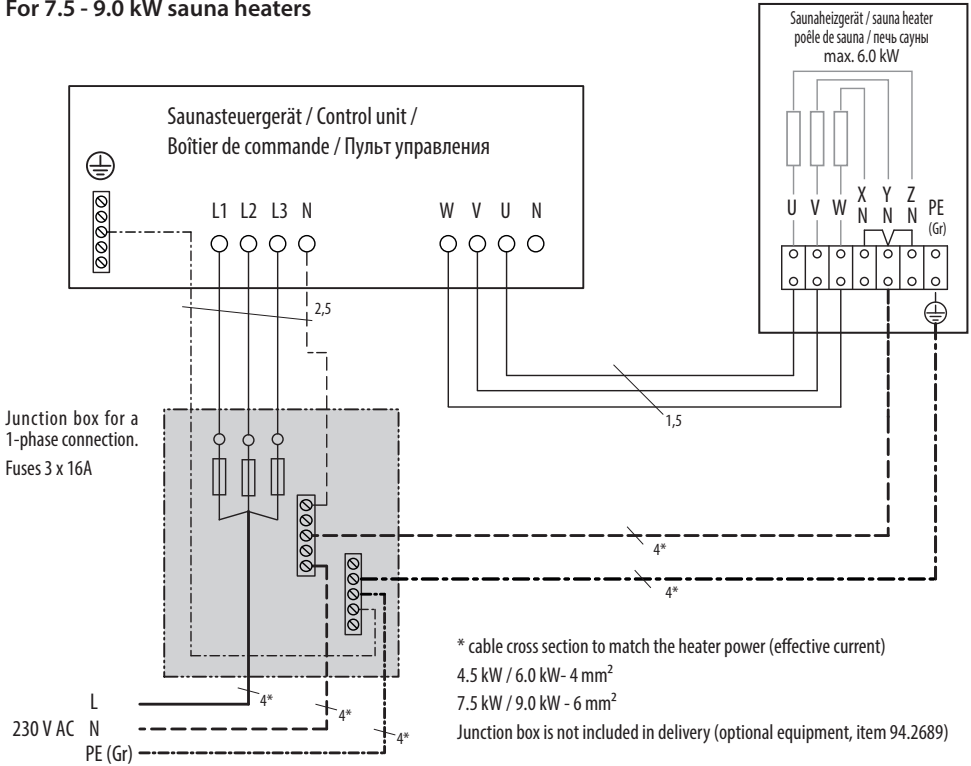
Specifications for 230V 1N connection

Power rating per DIN	Electrical connection	Fuse protection for control unit in A	Connecting cable mains - control unit in mm ²	Connecting cable control unit - heater in mm ²	Connecting cable N heater - N mains in mm ²	Connecting cable PE (Gr) heater - PE (Gr) mains in mm ²
4,5 kW	230 V 1N AC 50 Hz	3 x 16 A	3 x 4 mm ² (5 x 2,5)	3 x 1,5 mm ²	3 x 2,5 mm ²	4 mm ²
6,0 kW			3 x 4 mm ² (5 x 2,5)	3 x 1,5 mm ²	3 x 2,5 mm ²	4 mm ²
7,5 kW			3 x 6 mm ² (5 x 2,5)	3 x 1,5 mm ²	3 x 2,5 mm ²	6 mm ²
9,0 kW			3 x 6 mm ² (5 x 2,5)	3 x 1,5 mm ²	3 x 2,5 mm ²	6 mm ²

All cross sections of a line are minimum diameters in mm² (Copper line). All cross sections are given for 230V 1N power supply!

Connection example for 230V 1N AC for 4.5 - 6 kW heaters

For 7.5 - 9.0 kW sauna heaters



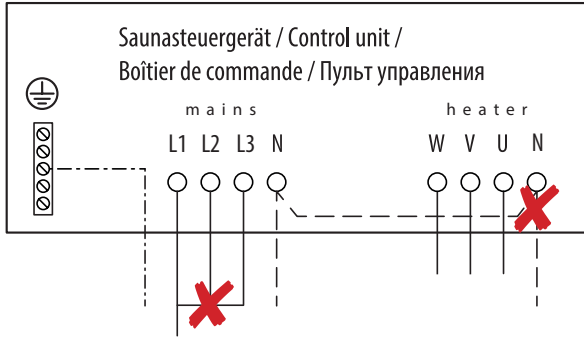
Attention! By connection to a 230V 1N AC make sure that both the sauna heater and the control unit are suitable for such connection. Make sure to use a proper fuse protection and suitable connection cable. Risk of fire and damages to hardware by improper connection!

Specifications for 230V 1N connection

Power rating per DIN	Electrical connection	Fuse protection for control unit in A	Connecting cable mains - control unit in mm ²	Connecting cable control unit - heater in mm ²	Connecting cable N heater - N mains in mm ²	Connecting cable PE (Gr) heater - PE (Gr) mains in mm ²
4,5 kW	230 V 1N AC 50 Hz	3 x 16 A	3 x 4 mm ² (5 x 2,5)	3 x 1,5 mm ²	3 x 2,5 mm ²	4 mm ²
6,0 kW			3 x 4 mm ² (5 x 2,5)	3 x 1,5 mm ²	3 x 2,5 mm ²	4 mm ²
7,5 kW			3 x 6 mm ² (5 x 2,5)	3 x 1,5 mm ²	3 x 2,5 mm ²	6 mm ²
9,0 kW			3 x 6 mm ² (5 x 2,5)	3 x 1,5 mm ²	3 x 2,5 mm ²	6 mm ²

All cross sections of a line are minimum diameters in mm² (Copper line). All cross sections are given for 230V 1N power supply!

Special advice for 230V 1N connection



Caution!

Do not relay the returning neutral N line from the sauna heater through the N output in the sauna control unit! Risk of fire and damages to control unit and heater.

Do not just bridge the power input terminals L1, L2, L3. Make sure to protect each input with an individual fuse! Risk of fire and damages to control unit and heater.

Sauna rocks


Sauna stones are a natural product. Check the sauna stones at regular intervals. Aggressive sauna essences can weaken the sauna stones and cause them to break apart over time. Consult your sauna supplier if necessary.

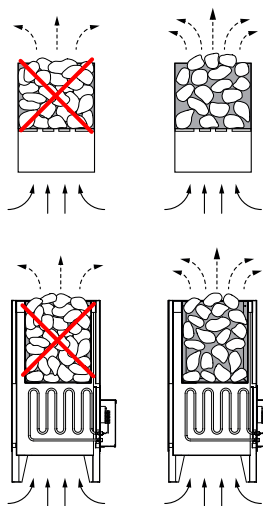
Wash the delivered stones with flowing water thoroughly and put them into the **stone basket** in a way that they do not put any pressure on the heating elements and that the air can still circulate through the stones.

The quantity of stones is sufficient to create a steam shock, vaporizing about 10 cl of water per m³ cabin volume. Always wait at least 10 minutes after an infusion before repeating it. Only then the sauna stones will re-heat sufficiently again.

By daily commercial use we recommend to check the condition of sauna stones every 2-3 months and to reshuffle them.

By home use the sauna stones need to be checked and reshuffled at least once per year.

 **Never add more essences or volatile oils than advised on the packaging. Never use alcohol or undiluted concentrates. Caution! Fire hazard!**



Maintenance and care

The sauna heating unit is made of low-corrosion material. To enjoy your sauna heating unit for a long time you should ensure maintenance and take due care about the heater. Always make sure that the air supply vents and reflection surfaces in the area of air intake are free. These can easily become clogged with fuzz and dust when drawing in fresh air. This reduces the air convection in the sauna heating unit and can be a cause of too high temperatures.

Clean or de-scale the heater when needed. Refer to your sauna supplier or directly to the manufacturer in case of defects or signs of wear and tear.

Only use original manufacturer's replacement parts, which can be obtained from your supplier or directly from the manufacturer.

If you did not use your sauna for a long period of time, always check before next use that cloths, cleansers or other objects have not been left on the sauna heating unit or the vaporizer before turning them on.

Please be sure to note!

Do not insert sauna rocks too tightly in the rock store. Place them loose, leaving as many spaces as possible to allow the free flow of hot air for circulation purposes. • Please make sure that the stones do not put any pressure on the heating elements.

Remove stones from the sauna heater only when they cooled down.

It cannot be excluded that hot rocks or their parts fall out of the rock store.

Risk of fire!

For the installation of sauna heaters, please pay attention to the DIN VDE 0100 part 703 or the corresponding national norms and legal requirements, e.g. UL875 norm!

This standard makes the following statement valid in your newest expenditure, since February 2006, paragraph 703.412.05; Quotation:

The addition must be planned for all electric circuits of the Sauna by one or more fault current protection device (RCDs) with a calculation difference stream not more largely than 30 mA, excluded of it is Sauna heating.

The EN 60335-1 DIN (VDE 0700 part 1):2012-10 states the following in paragraph 13.2; quote:

The leakage current may not exceed the following values during operation:

- for stationary heaters of protection class I 0,75 mA; or 0,75 mA each kW input of the appliance, depending on the higher value, at a maximum value of 5 mA.

If the appliance is equipped with a protective device for leakage current (ELCB), please pay attention to the fact that no other electrical units will be protected by this ELCB.

Under current manufacturing technology, it is not reasonable to use heating elements for sauna heaters which do not collect moisture from the surrounding air. It is therefore possible that a little bit of moisture from the surrounding air may reach the magnesium-oxide filling in the heating elements during transport or storage and may cause the ELCB to release.

In this case the heater must be heated up under supervision of an expert, during which the Ground conductor is not connected. After about 10 minutes, when moisture has evaporated from the heating elements, the heater must be reconnected to the Ground conductor!

If the sauna heater is not in use for a significant period of time, we recommend running it every 6 weeks, so as to avoid moisture concentrating in the heating elements.

Therefore, should the ELCB be released during start-up, the electrical installation must be

checked.

Installation of the sauna heater and control unit must be undertaken only by an authorized and appropriated qualified electrician.

Without a documented proof of such installation a warranty is generally void.



Recycling

Devices or lighting elements that will not be used any longer have to be handed in at a recycling station according to regulation 2012/19/EU. Do not dispose it with the normal household waste.



Service Address:

EOS Saunatechnik GmbH
Schneiderstriesch 1

35759 Driedorf, Germany

Tel: +49 (0)2775 82-514

Fax: +49 (0)2775 82-431

servicecenter@eos-sauna.de

www.eos-sauna.de

Please retain this address together with the installation guide for further references.

To help us answer your questions quickly and competently please provide the information printed on the type shield including the model, item no. and serial no., in all inquiries.

Equipment commissioning date:

Stamp and signature of the authorized electrician:

General Terms and Conditions of Service

I. Scope

Unless otherwise agreed in writing in a specific case, these terms and conditions of service shall apply to service operations, including examining and repairing complaints. All our existing or future legal relationships shall be governed solely by the following terms and conditions of service. Our recognition of any conflicting terms and conditions of the Ordering Party shall be conditional upon our having given our express written consent to their applicability. We hereby expressly object to any terms and conditions of the Ordering Party contained in its General Terms and Conditions of Business or order confirmation. If order confirmations or deliveries are accepted without reservation, this shall not be deemed to constitute recognition of such terms and conditions. Any ancillary agreements or amendments must be confirmed in writing.

II. Costs

The Ordering Party shall bear the following costs in connection with the service operation:

- De-installation/installation and electrical works (connection / disconnection).
- Transportation, postage and packaging.
- Function testing and troubleshooting including inspection and repair costs.

There shall be no third-party billing.

III. Obligations / Ordering Party's cooperation

The Ordering Party shall provide free-of-charge assistance to the manufacturer in carrying out the service operation.

In the case of a warranty claim the manufacturer shall provide the required replacement parts to the Ordering Party free of charge.

IV. Service visit by the manufacturer

In the event that it is essential that a manufacturer employee carry out the service operation on site, this must be agreed in advance. Where the main reason for the service call is not the fault of the manufacturer, any costs incurred shall be recharged to the Ordering Party after the service visit and shall be paid as per agreed payment terms.

V. Liability

The manufacturer shall assume liability in accordance with the currently applicable statutory regulations. The packaging for all of our products is designed for the shipping of individually packed goods (pallet). We expressly

point out that our packaging is not suitable for individual shipments via parcel post. The manufacturer shall accept no liability for damage incurred as a result of improper packaging in an individual shipment.

VI. Manufacturer's Guarantee

The manufacturer's guarantee shall apply only in the event that installation, operation and maintenance have been carried out in accordance with the manufacturer's specifications contained in the installation instructions and instructions for use.

- The guarantee period shall commence from the date on which proof of purchase is provided and shall be limited, in principle, to 24 months.
- Guarantee services shall be performed only if the original proof of purchase relating to the equipment can be presented.
- Any and all guarantee claims shall become void if modifications are made to the equipment without the manufacturer's express consent.
- Any guarantee claim shall likewise become void in the case of defects that arise due to repairs or interventions made by unauthorized persons or due to improper use.
- In the case of guarantee claims, the serial and article numbers must be indicated together with the product name and a meaningful description of the fault.
- This guarantee shall cover defective equipment parts, with the exception of usual wear parts. Wear parts are, among others, lamps, glass parts, heating elements and sauna stones.
- Only original replacement parts may be used within the warranty.
- Service visits by outside companies shall require a written order to be issued by our service department.
- The equipment in question shall be sent to our service department by the Ordering Party and at its expense.
- Electrical installation and connection works in the event of service or replacement shall be carried out at the Customer's expense and shall not be borne by the manufacturer.

Complaints in respect of our products shall be reported to the responsible authorized dealer and shall be exclusively handled via the latter.

The manufacturers General Terms and Conditions of Business, which can be found at www.eos-sauna.com/agb, shall apply in addition to the foregoing terms and conditions of service.

As of 08/2018