INNOVATIVE SAUNA TECHNOLOGY

EOS

Saunadome II

sauna heater

GB **Installation and operating manual**

CE

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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 observe in particular 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.
-  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 in-

stallation 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.
- Please always ensure that the sauna heater is never placed on flooring made of flammable material (wood, plastic flooring etc). Ceramic tiles are recommended as floor materials.
- 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.

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 may only be used in combination with a protective cover or S-guard system if operated by remote control*

**Remote control = Setting, control and/or regulation of the device by means of commands entered when the device is out of sight. Telecommunication, sound technology or bus systems can be used.*

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.

Caution!

Different heating charachteristic for sauna heaters with a larger quantity of stones!

Please note that a considerable amount of energy is required to heat the large quantity of stones and that a relatively low convection takes place due to the specific construction.

In comparison to conventional sauna heaters this means that the cabin requires a longer period of time to heat up and that is stays hot for a longer time after the end of the operating time.

Measures for improved air circulation in the sauna cabin may be necessary (forced ventilation).

When splashing water on the rocks please be aware that hot steam can also escape at the bottom through the open mesh of the side parts. Therefore please maintain a sufficient clearance! Danger of scalding!!

Technical data

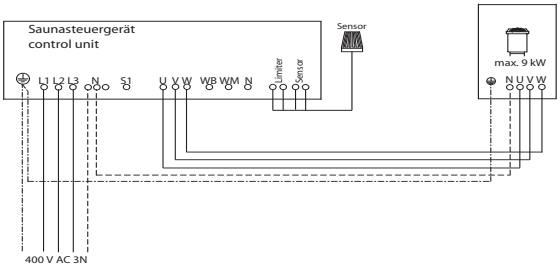
Heater power acc. to DIN	Electr. connection	Control unit fuse in A	Fuses in the PCU in A	Connection mains - control unit	Connection mains - PCU	Connection control unit - heater	Connection PCU - heater	Connection control unit - PCU	Power control unit (PCU) required
9 kW	400 V 3 N AC 50 Hz	3 x 16	3 x 16	5 x 2,5 ²		5 x 1,5²			no
12 kW			3 x 16	5 x 2,5 ²	5 x 2,5²		5 x 1,5²	4 x 1,5²	EMOTEC L09
15 kW									
18 kW									

All information on cable diameters are minimum diameters in mm² copper line.

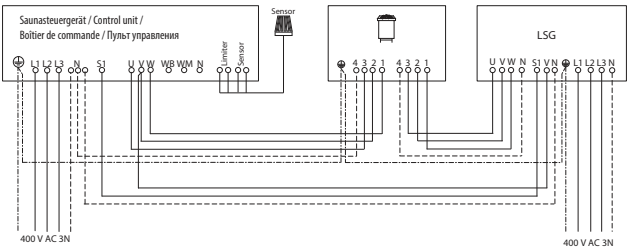
Outer coating	Installation dimensions in cm HWD	For cabin volume	Minimum dimension for ventilation and bleeding	Weight without stones and packaging	Stone filling	Power control unit (PCU) required	to be used with the control units
Expanded metal with wide bar mesh	100 x 41 x 41	9-14 m³	300 cm²	Approx. 35kg	Approx. 125kg	EMOTEC L09	ECON D1, D2, D3, D4 ECON H1, H2, H3, H4 EMOTEC D EMOTEC H EmoTouch II +
		14 18 m³					
		18 - 25 m³					
		24 - 30 m³					

Wiring diagram for sauna heaters

9 kW

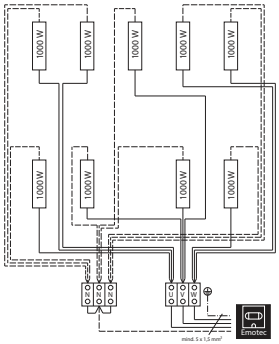


12-18 kW

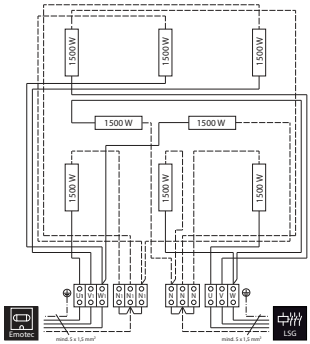


Detailed wiring diagram for sauna heaters

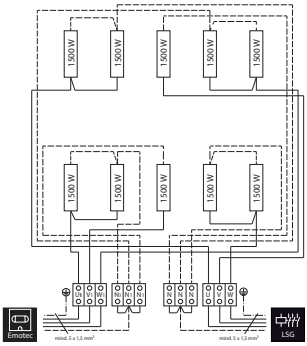
9 kW



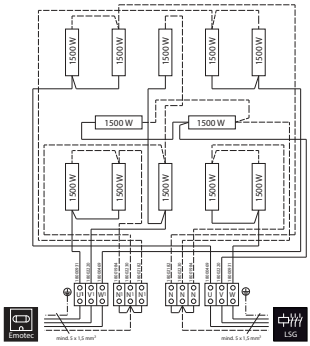
12 kW



15 kW



18 kW



Assembly

Minimum clearances

The sauna cabin interior must be at least 2.10 m in height.

When assembling the sauna heater, make sure that the vertical clearance between the upper edge of the sauna heater and the sauna ceiling is at least 110 cm and the horizontal (side) clearance between the heater and cabin wall or other flammable material is at least 20 cm (9 kW 12 cm) (fig. 1).

- Pay attention to the minimum clearances in the following diagrams!
- Due to the height of the heater, the top oven protection grate must not correspond with the height of the heater, but be mounted at a height of approx. 85 cm.

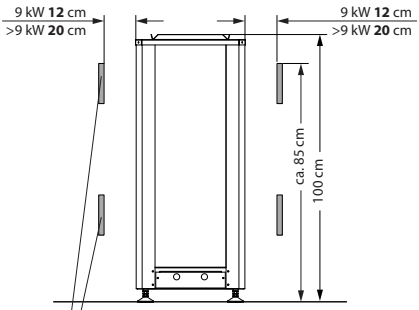


Fig. 1

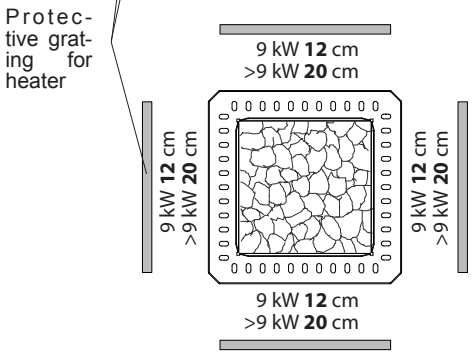


Fig. 1a

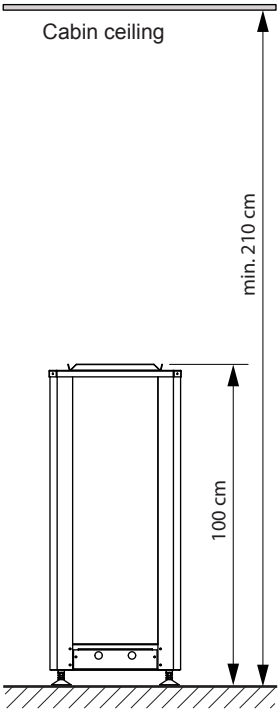


Fig. 2

Electrical connection

The sauna heater is designed for a connection voltage of 400 V 3N AC.

The sauna heaters must be operated using suitable sauna control units with additional power control units.

Saunadome heaters are generally wired in 2 circuits.

The connection box is found behind the exterior cladding.

Leakage current: max. 0.75 mA per kW of heating power

Sauna heater for use in commercial saunas.

Sauna stones

Sauna stones are a natural product. Always check the sauna stones at regular intervals. Sauna stones can be particularly attacked by frequent infusions with aggressive essences in high concentrations and may disintegrate over the course of time. Please ask your sauna supplier for replacement rocks.

Thoroughly wash the supplied sauna stones under running water and load them in the rock store so that the heating elements cannot be seen from the outside.

The large rock volume will provide for a powerful heat reserve and quick evaporation with rich steam effect even by frequent water splashing.

Due to the large quantity of stones, the first infusion should be made not earlier than one hour after starting heating.

Check the quantity of stones at regular intervals and remove any small particles of stone lying in the expanded metal mesh.

Due to the large volume of rocks and the height of the rock store the sauna rock may settle down in the course of time, so that the ends of heating elements may become visible. **The heater shall not be operated in this state!** In this case do not just refill the rock store, but first re-shuffle the rocks to provide for more space between them and to ensure due air circulation.

Caution! Risk of fire! Make sure to observe the instruction for dilution of sauna essences given by the manufacturer. Never use alcohol or undiluted concentrates.

Caution!

The filled heater has a weight of approximately 150 kg.

Do not tip the heater using the adjustment feet or move it when filled. There is the risk of the adjustment feet being damaged.

Right

The heating elements are fully covered by stones. The heating elements cannot be seen from the outside.

Wrong

Heating elements can be seen between the stones.

A visible heating elements can even pose a risk to flammable materials beyond the safety clearance.

Make sure that no heating elements can be seen from outside between the stones.

Risk of fire!!!

Maintenance and care

All sauna heaters are made of a corrosion-resistant material. You should maintain and care for the device so that you can enjoy your sauna heater for a long time. you must make sure that all openings and radiation plates in the vacuum area are kept free of obstructions. By drawing in fresh air, these can easily become blocked with fluff and dust. This restricts the air convection of the sauna heater and unauthorized temperatures can occur.

Clean or remove limescale from the device as required. Please contact your sauna dealer or the manufacturing factory if you notice any defects or signs of wear and tear.

If you haven't used your sauna for a while, make sure that no hand towels, detergents or other objects have been placed on the sauna heater or evaporator before starting the sauna.

 Suitable protective gloves must be worn when cleaning the outer coating parts of blades.

DIN VDE part 703 must be observed for installation of the sauna heaters!

This norm, in the latest version valid since February 2006 with amendments to paragraph 703.412.05, makes the following statement; quote:

The additional protection must be provided for all of the sauna's electrical circuits through one or more residual current devices (RCD) with a differential measurement current no higher than 30 mA, with the exception of sauna heaters.

EN 60335-1 DIN VDE part 1 from January 2001 states the following under paragraph 13; quote:

The leakage current may not exceed the following values at operating temperature:

- For fixed heaters under protection class I: 0.75 mA or 0.75 mA per kW measurement detection of the device, depending on which value is higher, with a maximum value of 5 mA.

If a residual current device (RCD) is installed, make sure that no other electrical consumers are protected using this RCD.

According to the current status of technology, it does not make sense to use vapor-tight heaters in saunas. In some cases, the magnesium-oxide filling in the heaters by draw moisture from the air through the vapor-diffusion silicone seal which may lead to the RCD triggering in a few cases. This is a physical process and is not a manufacturing error.

In this case, the heater must be heated by a specialist under supervision, whereby the function of the RCD is by-passed. After the moisture has been drawn from the heating rods after approx. 10 mins, the RCD can be incorporated in the electrical circuit again!

If the sauna is not used very often, we recommend heating it approximately every six weeks so that moisture does not accumulate in the heating rods.

If the RCD is triggered during initialization, the electrical installation must be checked once again.

The electrical fitter is responsible for correct connection of the heaters and liability by the manufacturer is therefore excluded!

Please keep this address in a safe place together with the installation guide.

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.

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

WARRANTY

The warranty is provided according to the legal regulations at present.

Manufacturer's guarantee:

- The period of guarantee starts from the date of purchase and lasts up to 2 years by commercial use and 3 years by private use.
- Always include the completed guarantee certificate when returning equipment.
- The guarantee is void for appliances which have been modified without manufacturer's explicit agreement.
- Damages caused by incorrect operation or handling through non-authorized persons are not covered under the terms of guarantee.
- In the event of a claim please indicate the serial number as well as the item number and model name with detailed description of the fault.
- This guarantee covers defective parts and labour but not the defects caused by wear and tear.

In case of complaint please return the equipment in its original packaging or other suitable packaging (caution: danger of transport damage) to our service department.

Always include the completed warranty certificate when returning equipment.

Possible shipping costs arising from the transport to and from point of repair cannot be overtaken by us.

Outside of Germany please contact your specialist dealer in case of warranty claims. Direct warranty processing with our service department is in this case not possible.

Equipment commissioning date:

Stamp and signature of the authorized electrician:

Handling procedures for return shipments (RMA) - Details for all returns !

Dear customer
we hope that you will be satisfied with the purchased EOS product. In the rear case if you may have a claim and will need to return a product, please follow the procedures specified below. This will enable to ensure a quick and effective handling of the return shipment.

Please observe for all returns!

- Please add the provided **RMA-voucher completely filled out** together with an **invoice copy** to the return shipment! Do not stick it on the goods or on the packaging. **We do not accept return shipments without these papers.**
- Not prepaid parcels **will be refused** and returned to Sender! Please always ask your dealer or EOS service department about the most economical return shipment way.
- **Please pay attention that** the goods have to be sent back in the **original scope of delivery** and in **original packing**.
- We recommend to use an **additional solid and break-proof covering box** which should be padded out with styrofoam, paper or similar. Transport damages as a result of faulty packing are for the sender's account.

Reason of complaint and proceedings:

1) Transportation damage

- Please check the content of your parcel immediately and advise the forwarding company of a claim (parcel service/ freight forwarder)
- Do not use damaged goods!
- Ask the forwarder **for a written acknowledgement of the damages.**
- **Report the claim promptly by phone to your dealer.** He will discuss with you how to act in this case.
- If the transport box has been damaged, please use an additional covering box. Do not forget to add the **acknowledgement of the damage of the forwarding company !**

2) Faulty goods

- The implied warrenty period is 2 years.Please contact your dealer in case of **faulty or wrong articles or missing accessories.** He will discuss with you the individual case and try for immediate and customer-friendly solution.
- For **economic returns** within Germany you will get an **RMA-number from the manufacturer.**
- All returns have to be in the **original packing of the goods with corresponding accessories.** Please repack the goods to avoid damages. In case of wrong delivery, please do not use this article .

3) Problems of installation and functioning

- Please **read the manual carefully first of all** and pay attention to the indicated assembly or installing instructions.
- **Your dealer should be the first contact person** because he knows his products best and also knows possible problems.
- **In case of function problems with an article,** please check at first whether there is an obvious material defect. The quality system in our factory reduces malfunctions of new appliances to almost zero.