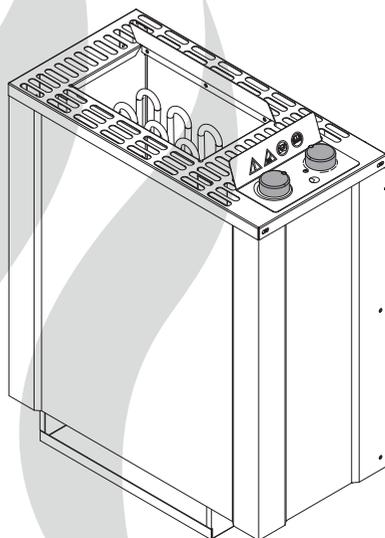


# Filius Control

400 V 3N AC / 230 V 1N AC



**EN** Installation and operating instruction

MADE IN GERMANY



# 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 9001:2015.

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.
  -  **Caution:** Covering the heater or an incorrectly filled stone container represent a fire hazard.
  -  Inspect the sauna cabin before each use! In particular, ensure that no objects have been stored on the sauna heater or the IR-radiator, if applicable.
- Risk of fire!**
-  **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.

## 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.



### 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

- 1 sauna heater
- 1 accessory pack with
  - 1 pc. heat deflector
  - 1 pc. cable screw connection
  - 4 pcs. self-tapping screws 4 x 25
  - 3 pcs. self-tapping screws B 4.2 x 9.5
  - 2 pcs. lock screws 2,9 x 19
  - 1 pcs. copper jumper (bridge for 230V connection)
- 1 set of sauna stones
- 1 Installation and operation guide

## Technical Specifications

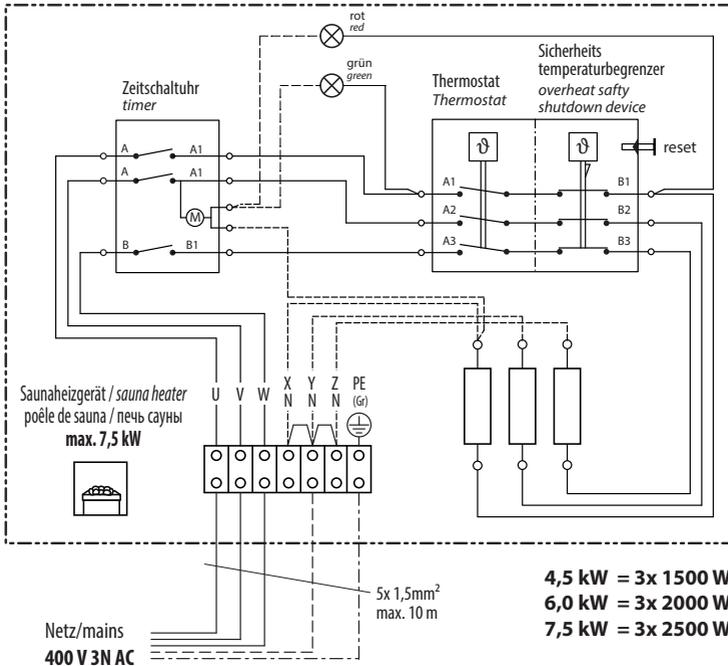
Nominal voltage	400 V 3 N 50 Hz AC (Connection to 230V 1N possible **)		
Power rating	4,5 kW	6,0 kW	7,5 kW
For sauna size	4 - 6 m <sup>3</sup>	6 - 8 m <sup>3</sup>	7 - 10 m <sup>3</sup>
Min. size air inlet and exhaust vent	35 x 11 cm		
Weight without stones and packing	15 kg		
Size (H x W x D)	57,5 (75*) x 47 x 24 cm		
Stone volume	8 kg		
Leakage current	max. 0,75 mA per kW heating power		
Intenden use	Sauna heater for use in private saunas		
Temperature control range	40 - 100°C		
Fuse protection	3 x 16 A		
Connection power supply - heater	5 x 2,5 mm <sup>2</sup>		

All cross sections of a line are minimum diameters in mm<sup>2</sup> (Copper line).

\*With 18 cm floor gap

\*\* See special installation scheme

## Connection example for 400V 3N AC



**Caution!** Make sure to connect the neutral wire N.

### Specifications for default connection 400V 3N AC

Power acc. DIN	Electrical connection	Fuse protection	Connecting cable main - heater
4,5 kW	400 V 3N AC 50 Hz	3 x 16 A	5 x 1,5 mm <sup>2</sup>
6,0 kW			
7,5 kW			

All cross sections of a line are minimum diameters in mm<sup>2</sup> (Copper line).

### To be connected by a qualified electrician:

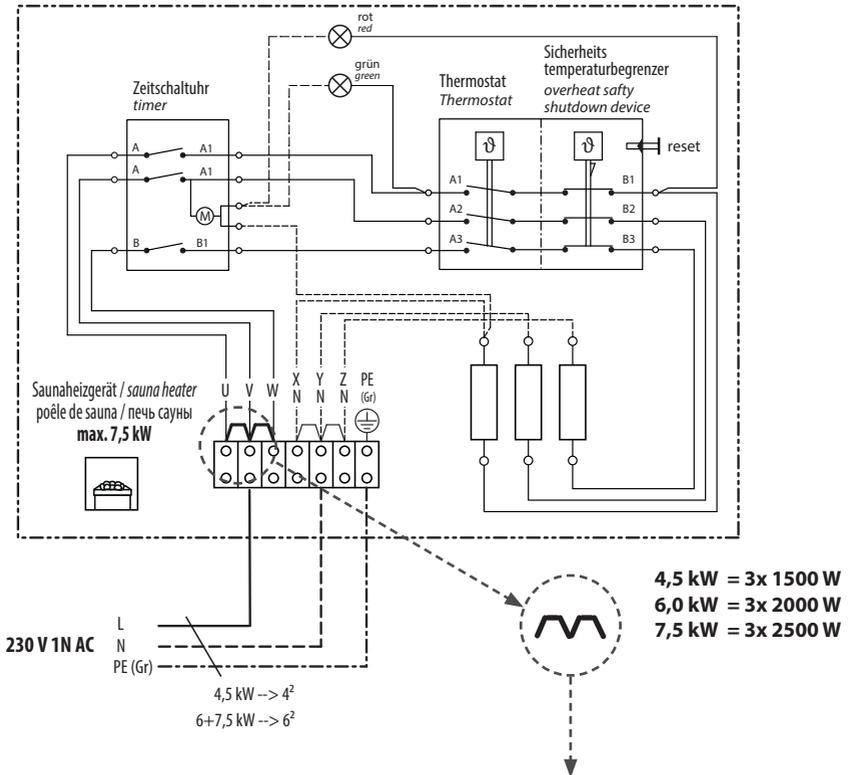
Drill an approx. 10 mm hole in the cabin wall near the entry area of the stove's connecting cable. Feed the connecting cable through the borehole to the outside and connect to the power supply in a distribution box suitable for wet rooms.

Please observe the wiring diagram and the regulations of the local power supplier (TAB 2000) and the VDE.



**Caution!** An adequate fuse and a mains circuit breaker must be installed in the heater's power supply line on site.

# Connection example for 230V 1N AC



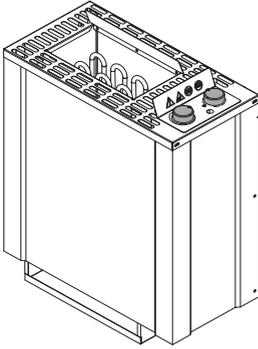
By 230V 1N connection the 3-pole copper bridge must be fitted on the U/V/W terminals. This bridge is included in the delivery scope.

## Specifications for 230V 1N connection

Power output	Electrical connection	Fuse protection	Connecting cable mains - heater
4,5 kW	230 V 1N AC 50 Hz	1 x 25 A	3 x 4 mm <sup>2</sup>
6,0 kW		1 x 35 A	3 x 4 mm <sup>2</sup>
7,5 kW		1 x 35 A	3 x 6 mm <sup>2</sup>

All cross sections of a line are minimum diameters in mm<sup>2</sup> (Copper line).  
All cross sections are given for 230V 1N power supply!

# 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 and under observation of a special connection scheme.

## Minimum distances

The sauna cabin inner height must be at least 1.90 m.

Maintain at least 100 cm clearance between the upper edge of the heater and the cabin ceiling  
 Make sure to observe min 4 cm safety gap between sauna heater and guard rail, sauna wall or other flammable materials on all sides.

The heater guard rail is not included and needs to be provided on site.

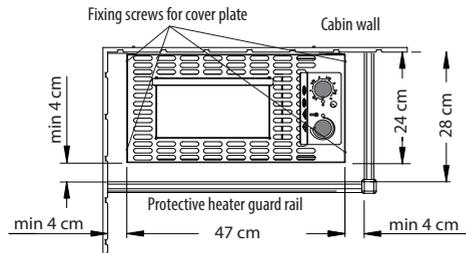


Fig. 1

1. In compliance with Fig. 2, screw 4 attachment screws above the air intake opening into the cabin wall so that there is approx. 3 mm space between the wall and the head of the screw.

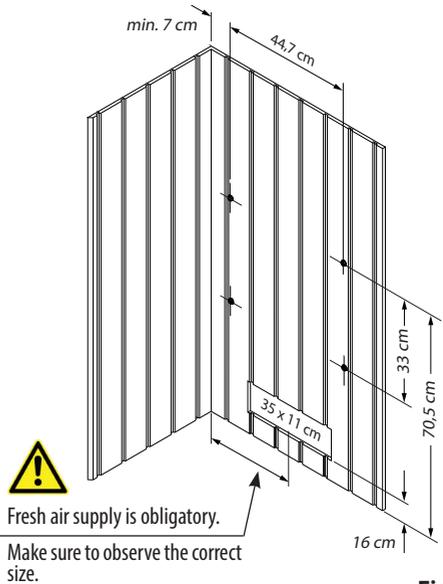


Fig. 2

2. At first verify that the power supply line has been disconnected from power before making the connections. First unscrew the four screws shown in Fig. 3 and then pull down the terminal strip. See Fig. 3a.

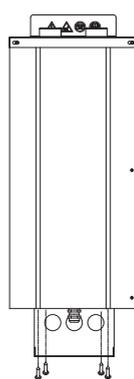


Abb. 3

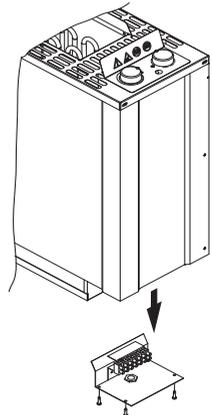
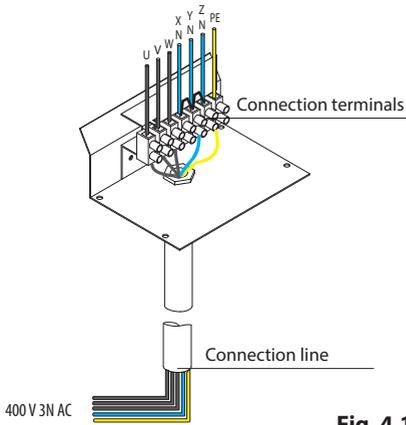
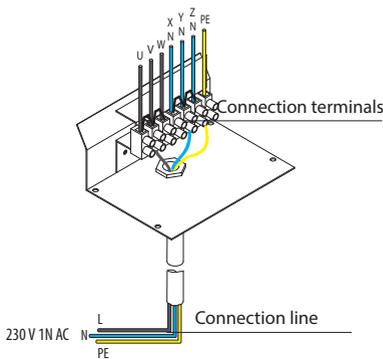


Fig. 3a

3. Connect the power cable as shown in the wiring diagram. You will find a corresponding wiring diagram of these instructions.



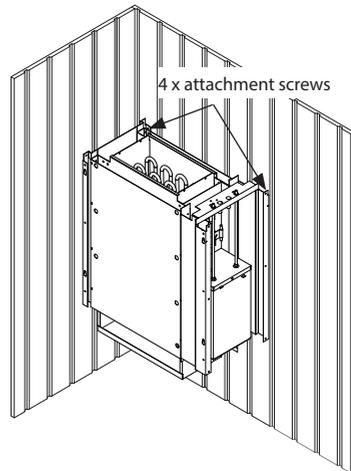
**Fig. 4.1**



**Fig. 4.2**

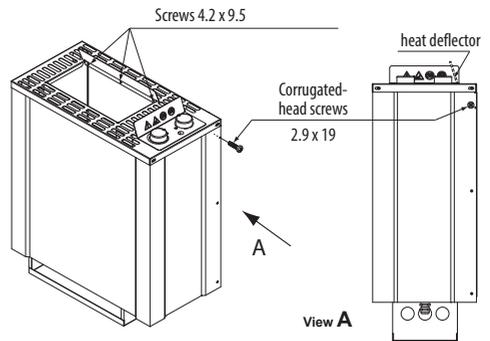
4. Insert the terminal strip back into the heater and attach with the four screws. Ensure that the cable is properly secured in the cable gland.

5. Hook the sauna heater into the attachment screws via the slits on the reverse wall.
6. Secure the sauna heater against the wall using the 4 screws through the borehole on the back edge of the stove (Fig. 2+5) or on the side using the lock screws 2.9 x 19, as shown in Fig. 6.



**Fig. 5**

7. As shown in Fig. 6, screw tight the enclosed heat deflector using the 3 screws 4.2 x 9.5 and the two lock screws.



**Fig. 6**

**Caution:** Incorrectly installed heat deflector may be a fire risk.

# Commissioning

Turn the timer knob to start the sauna heater. When switched on to the max., the unit runs for 4 hours before automatically switching off.

The operating status 'ON' is indicated via a green lamp.

If the stove is heating up, the red lamp also shines.

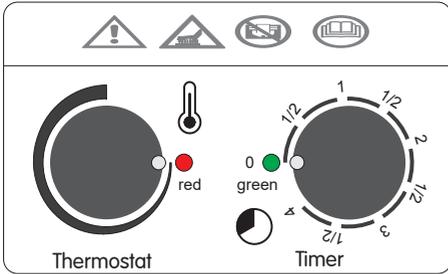
Once the heating time of 4 hours has expired, the two lamps (red and green) go off.

To switch off the device, the clock needs to be set to '0' again. Both lamps are now off.

Please note that the temperature sensor is inside the unit; an external stove sensor is not necessary. The design of the cabin can impact on the way the cabin heats up and cause temperature differences of up to 15°C.

Also, many bimetal thermometers (wall-mounted) react sluggishly, so that the real temperature is only shown after about an hour in some cases. If possible, the thermometer should not be mounted with its entire casing on the cabin wall, but a slight gap should be left. This reduces the reaction time.

It is also possible that your thermometer shows a lower value than you set on the control unit.



Please note that the sauna needs about 45 minutes to heat up and create the typical sauna climate.

Use the thermostat knob to pre-select the temperature in a range of approx. 40 °C to 100 °C. Please also note that the sensors only record the temperature around them. It is therefore possible that the temperature in other parts of the cabin may vary, however this is typical in a sauna.

# Safety cut-out

The sauna heater is equipped with a safety temperature limiter (STB). If there is a malfunction, this STB switches off all 3 phases for reasons of safety.

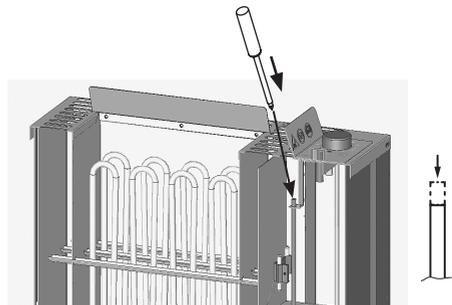
If the STB triggers, it needs to be reset mechanically.

Now press the locking pin below the cover by pressing it with a screwdriver through the 7th ventilation slit in the first row of holes until you feel the switch point.

If the STB triggers again after commissioning, the device needs to be checked by a qualified technician.

### Remark

Is the bathing temperature not reached or does the temperature on the thermometer vary from that in the cabin?



# Position change of the control panel (left / right)

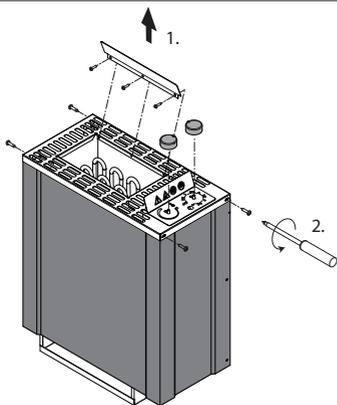


Fig. 1

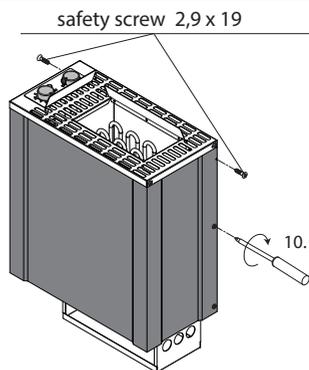


Fig. 5

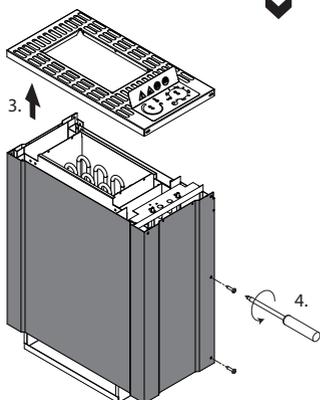


Fig. 2

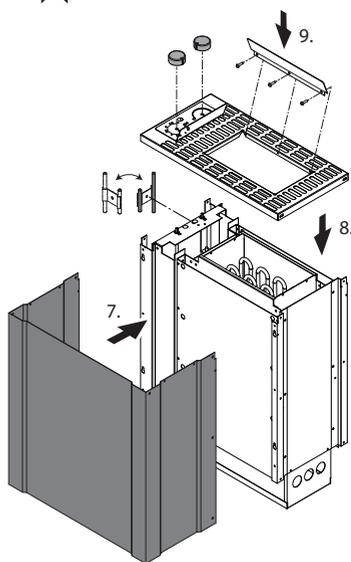


Fig. 4

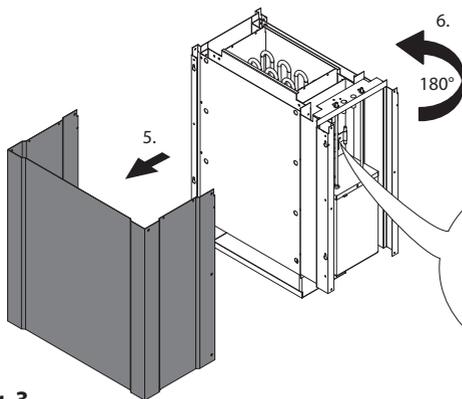


Fig. 3

# Replacement of heating elements.

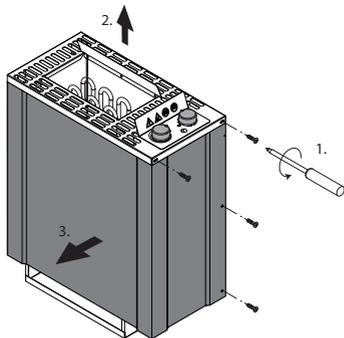


Fig. 1

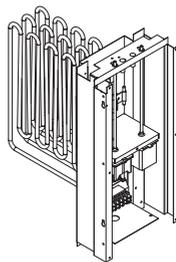


Fig. 4

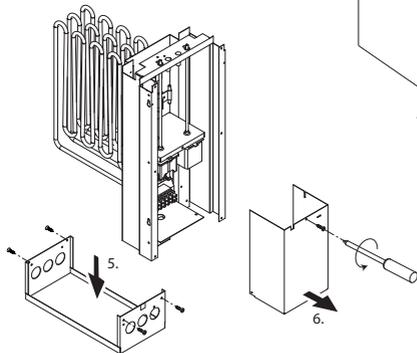
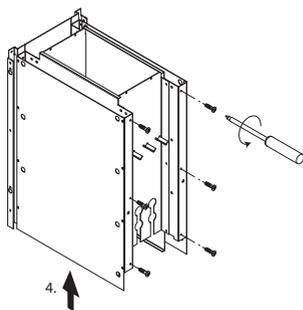


Fig. 2

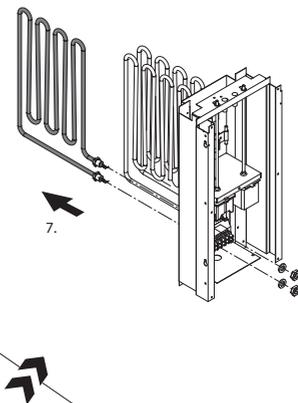


Fig. 3

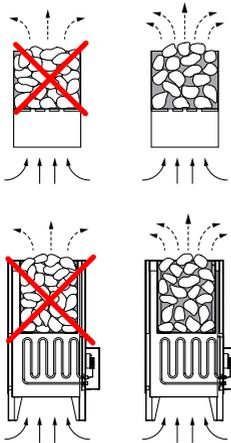
## Sauna rocks

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.

Rinse the sauna stones provided under running water and then place them in the **stone compartment** so that the convection air flow can circulate easily between the stones (Illust. 9 + 10).

The quantity of stones is sufficient to create a steam shock, vaporizing about 10 cl of water per m<sup>3</sup> cabin volume. Always wait 10 minutes after infusion before repeating the infusion. Only then the sauna stones will re-heat sufficiently again.

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



 To take care of the right heating regulation, please be sure that the stones covered all heating elements!

## Maintenance and care

All sauna heating units are 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.

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 !**

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

*The additional 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 oven must be heated up under supervision of an expert, during which the PE conductor is not connected. After about 10 minutes, when moisture has evaporated from the heating elements, the oven must be reconnected to the PE 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 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](mailto:servicecenter@eos-sauna.de)

[www.eos-sauna.de](http://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](http://www.eos-sauna.com/agb), shall apply in addition to the foregoing terms and conditions of service.

As of 08/2018