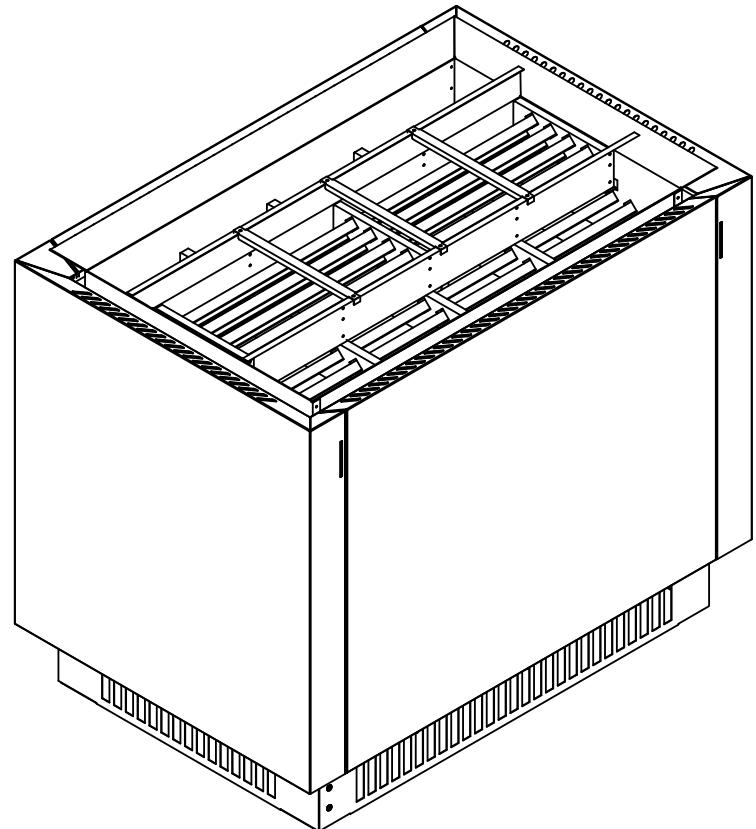


# EOS Mega / Mega HD

## Heater for Sauna Cabins



Installation and Operating Instructions

**Made in Germany**

**CE** **EAC** **UK**  
**CA** **IPx4**

Druck-Nr.: 2902 5230  
Stand: 34/23

# Documentation

## Documentation

### Manufacturer

EOS Saunatechnik GmbH	
Schneiderstriesch 1	
35759 Driedorf, Germany	
Tel.	+49 2775 82-514
Fax	+49 2775 82-431
Email	servicecenter@eos-sauna.com
Web	www.eos-sauna.com

### Original installation instructions EN

Copyright for these installation instructions remains with EOS Saunatechnik GmbH.

Copyright as per DIN ISO 16016:

The copying and distribution of this document, as well as the use and communication of its contents without express authorisation, are not permitted. Compensation will be claimed in the event of infringements.

All rights reserved with regard to patent claims or submission of design or utility patent.

### Characters, symbols and illustrations

- ① Additional information about an operating step
- Cross-reference to a page
- 📖 Read instructions
- ✓ Result of a step
- ▣ Table title
- ▣ Title of figure
- ≤ ≥ Less than or equal to, greater than or equal to

## Revision history

Date	Version	Description
21 Aug. 2023	03.10	Safety instructions and standard texts updated
9 Jan. 2023	03.00	Switch to HD version
15 Aug. 2021	02.00	Technical enhancement to HD version
10 Sept. 2020	01.20	Circuit diagrams updated and information on heating time limitations added
9 Apr. 2020	01.10	Safety-related information added
27 Jan. 2020	01.00	First version

# Contents

<b>Documentation</b> .....	EN-2
<b>1 General safety instructions</b> .....	EN-6
1.1 Mounting and electrical installation .....	EN-6
1.2 Operator instruction.....	EN-8
1.3 Safety levels.....	EN-10
1.4 Standards and regulations.....	EN-10
<b>2 Identification</b> .....	EN-11
2.1 Requirements for operation .....	EN-11
2.2 Nameplate .....	EN-11
2.3 Scope of delivery .....	EN-12
2.4 Accessories (optional).....	EN-12
2.5 Technical data.....	EN-13
2.6 Intended use .....	EN-14
<b>3 Installation</b> .....	EN-16
3.1 Specifications for the cabin .....	EN-16
3.1.1 Installation site .....	EN-17
3.1.2 Air inlets and outlets .....	EN-18
3.1.3 Connecting cables .....	EN-20
3.2 Temperature sensor .....	EN-21
3.3 Mounting the sauna heater.....	EN-22
<b>4 Electrical installation</b> .....	EN-26
4.1 General instructions for electrical installation .....	EN-26
4.2 Connection diagram .....	EN-27
4.3 Internal wiring .....	EN-28
4.4 Establishing an electrical connection .....	EN-33
4.5 Heating period limitation.....	EN-37
<b>5 Commissioning</b> .....	EN-38
5.1 Filling rock stores with stones .....	EN-39
5.2 Starting the heater.....	EN-40
5.3 Switching the heater on remotely .....	EN-40
5.4 Water splash.....	EN-41
<b>6 Service and maintenance</b> .....	EN-42
6.1 Cleaning.....	EN-42
6.2 Sauna stones .....	EN-43
6.3 Replacing the tubular heating elements .....	EN-44
6.4 Troubleshooting .....	EN-47

<b>7 General terms and conditions of service .....</b>	<b>EN-48</b>
<b>8 Disposal .....</b>	<b>EN-51</b>

# General safety instructions

# 1

## General safety instructions

### 1.1

### Mounting and electrical installation



These installation instructions are intended for qualified personnel familiar with the laws and regulations applicable to electrical installations at the installation site. Observe the following general safety instructions during mounting, configuration and commissioning of the product.

#### Risk to life and limb and risk of fire

Risk to life and limb from electric shock and fire in the event of improper or faulty electrical connection. This risk remains also after completion of the installation work.

- ▶ The electrical installation of the heater, power extension units and other electrical systems or equipment with a fixed mains connection must only be performed by a trained electrician from an authorised electrical company.
- ▶ Ensure compliance with the applicable standards and regulations for electrical installation.
- ▶ The system must be completely disconnected from the mains supply before commencing installation and repair work.
- ▶ The housing cover must only be removed by a trained specialist.

#### Fire hazard from overheating

Insufficient ventilation can lead to device overheating and fire.

- ▶ Install air inlets and outlets in the cabin.
- ▶ Observe the cabin manufacturer's safety and installation instructions.

#### Risk of fire due to sauna stones

It is possible for hot stones or stone pieces to fall out of the rock store.

- ▶ The sauna heater may not be placed on a floor made of easily flammable material (e.g. laminate or synthetic flooring). Ceramic tiles are recommended as a flooring option.

<b>Risk of burns from hot glass</b>	<p>Glass surfaces in the cabin become hot while the sauna is in operation.</p> <ul style="list-style-type: none"><li>▶ When installing the cabin, ensure that the touchable glass surfaces on the outside of the cabin may reach a maximum temperature of 76°C. Appropriate protection may need to be installed if required.</li></ul>
<b>Risk of burns from hot unit</b>	<p>During operation, the sauna heater may become hot and, if touched, could cause burns.</p> <ul style="list-style-type: none"><li>▶ Maintain a safe distance.</li></ul>
<b>Sauna cabin and sauna heater</b>	<p>The sauna cabin must be constructed with proper material and built in a professional manner, and the output of the heater must be suited for the cabin.</p> <ul style="list-style-type: none"><li>▶ The sauna heater may only be used in sauna cabins made of suitable, low-resin and untreated material (e.g. Nordic spruce). The control unit must not be used in the cabin.</li><li>▶ Multiple heaters may be installed in one sauna if the heater output can properly supply the cabin volume. In this case, depending on the position, an additional safety temperature limiter must be installed for each additional heater.</li><li>▶ The sauna heater is not designed to be installed or set up in an alcove or under a bench or sloping roof unless this sauna heater is specifically designed and approved for this type of installation.</li><li>▶ Receptacles may not be installed inside the sauna cabin.</li><li>▶ Each sauna cabin must have air inlets and outlets. The air inlets and outlets may be installed from below or from behind the heater. The minimum dimensions of the air inlets and outlets can be found here: 2.5 Technical data, □ EN-13 and 3.1.2 Air inlets and outlets, □ EN-18.</li><li>▶ The air outlet is always installed in the lower part of the wall, diagonal to the heater. The air inlets and outlets must not be closed. Observe the instructions provided by your sauna cabin manufacturer.</li><li>▶ Use the supplied control unit to check and control the sauna heater. It is fixed to a suitable location on the cabin's external wall, and the corresponding sensors according to the installation instructions for the control unit inside the sauna cabin.</li><li>▶ Electrical installations and equipment in the sauna cabin must comply with IEC 60364-7-703 (DIN VDE 0100-703).</li></ul>

# General safety instructions

- ▶ The cabin lighting must be safe for sauna cabin use and installed in such a way that it can be used safely in a sauna cabin. Ensure that the heater is installed in compliance with the standards and legal norms valid in your country.
- ▶ The cabin door must open outward and must not have a lock that cannot be opened in the case of failure. We recommend magnetic or spring locks.
- ▶ The door opening should be > 80 cm.

## 1.2 Operator instruction

The operator of the sauna cabin must be instructed in the general safety instructions during commissioning. The operator must be given a copy of the operating instructions.

### Risk of electric shock

A risk to life and limb from electric shock and fire arises in the event of improper repair work. This risk remains also after work is completed.

- ▶ The housing cover must only be removed by a trained specialist.
- ▶ Repairs and installations must only be performed by a trained specialist.
- ▶ The system must be disconnected and removed entirely from the mains supply before commencing repair work.
- ▶ Use only original spare parts from the manufacturer.

### Fire hazard



Objects placed on the heater can easily be ignited and cause fires.

- ▶ Do not place objects on the heater.
- ▶ Fill the rock store as directed.
- ▶ Inspect the sauna cabin prior to each commissioning.
- ▶ If you operate the sauna heater using pre-set timers or a remote control, install a suitable safety system.

### Health risks

Spending time in a sauna cabin can lead to serious health risks or even death for persons with health impairments.

- ▶ Persons with health impairments who spend time in a sauna must consult a doctor before entering a sauna cabin.

**Equipment damage due to overuse** If the cabin is used commercially, the heating period must be set so that the heater switches off automatically after a specific period of time.

- ▶ If the heating does not switch off automatically after a defined heating period, cabin use must be supervised at all times.
- ▶ Inspect the cabin before each use.

**Damage to health** Excessive time spent in a heated sauna cabin can lead to overheating of the body (hyperthermia), which may cause serious health problems and even death. Hyperthermia occurs when the core temperature of the body exceeds the norm by a few degrees. Symptoms of hyperthermia include fever, dizziness, lethargy, sleepiness, and fainting. Side effects of hyperthermia include perception disorders, inability to recognize the need to leave the room, inability to identify imminent danger, harm to the foetus in the case of pregnant women, inability to physically leave the room and unconsciousness.

Alcohol, drugs, and medications increase the risk of hyperthermia.

- ▶ Do not exceed the maximum recommended time in the sauna.
- ▶ Leave the sauna cabin if your body responds abnormally to the heat or if you do not feel well.
- ▶ Avoid alcohol, drugs, and medications when you are using the sauna.

**Operation by children or persons with reduced mental capacity** This unit should not be used by children or persons with reduced mental capacity or limited physical or sensory abilities.

- ▶ Children must be supervised to ensure they do not play with the unit.
- ▶ Children and persons who have not received proper instruction must not clean or service the system.

# General safety instructions

## 1.3 Safety levels

Safety instructions and important operating instructions are classified according to ANSI Z535.6. Please familiarise yourself with the following terms and symbols:

### **WARNING**

#### **Warning**

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.

### **CAUTION**

#### **Caution**

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

### **NOTICE**

#### **Notice**

Indicates a hazardous situation which, if not avoided, will result in damage to the unit.

## 1.4 Standards and regulations

For an overview of the standards that were observed during design and construction of the sauna heater, please refer to the individual product's technical data sheet that can be downloaded from [www.eos-sauna.com](http://www.eos-sauna.com).

# 2

## Identification

EOS Mega HD is an electrically heated sauna heater for Finnish mode available in a variety of output capacities.

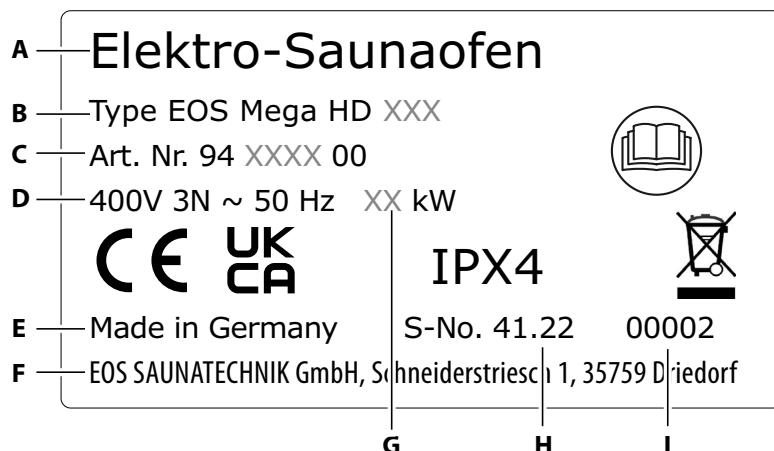
### 2.1 Requirements for operation

The heater must be operated together with one control unit and two power extension units. They are not included in the scope of delivery. The heater can be operated with one of the following control units:

- EmoStyle series
- EmoTec series
- EmoTouch series
- Econ series (Econ D2 and higher)
- EOS Compact series

The power extension units required depend on the output capacity of the heater. See 2.5 Technical data, □ EN-13

### 2.2 Nameplate



<b>A</b>	Name
<b>B</b>	Model
<b>C</b>	Item number
<b>D</b>	Electrical connection
<b>E</b>	Country of origin

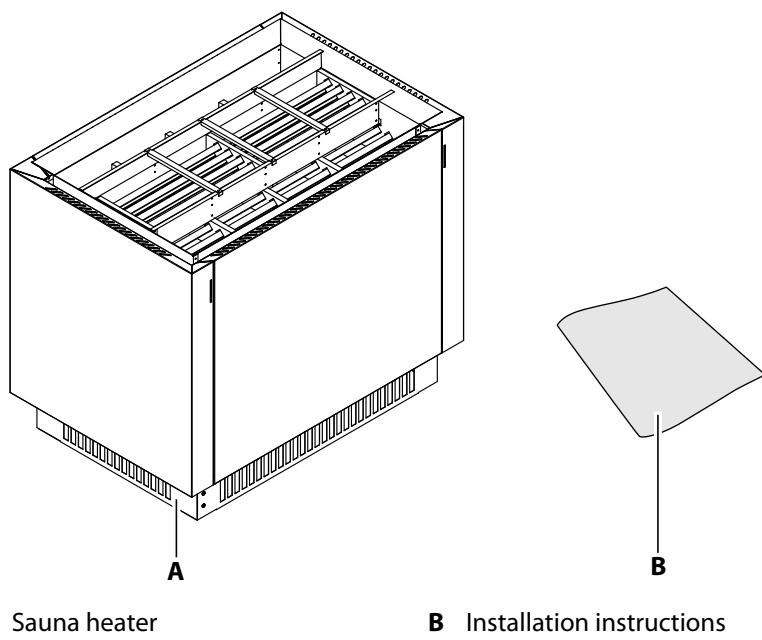
<b>F</b>	Manufacturer
<b>G</b>	Heater output
<b>H</b>	Manufacturing date
<b>I</b>	Serial number

## Identification

### 2.3 Scope of delivery

Check the unit upon delivery to ensure that all components were delivered and that it is in proper working order. Contact your distributor if components are missing or damaged. The unit must not be operated if components are missing or damaged.

The following parts are included in the scope of delivery:



**A** Sauna heater

**B** Installation instructions

### 2.4 Accessories (optional)

A heater guard rail may be mounted around the upper edge of the heater. It prevents accidental contact with hot parts of the heater. The heater guard rail consists of four brackets and a wooden frame.

#### **⚠ CAUTION**

##### **Skin burns from hot surfaces**

If the heater is placed too close to a bench, there is risk of accidental contact with hot surfaces. This could lead to burns.

The optional heater guard rail does not offer sufficient protection in this specific installation configuration.

- ▶ Increase the distance.
- ▶ During the installation, mount a suitable heater guard rail for the heater.

Accessories	Item no.
Sauna stones, 20 kg, caliber 100–150 mm	94.7340
Brackets for heater guard rail	94.7183
Brackets and wooden frame (abachi)	94.7184
Brackets and wooden frame (walnut)	94.7185

## 2.5 Technical data

Heater output	42 kW	48 kW	54 kW	60 kW	72 kW		
Unit dimensions HxWxD in cm	100 x 120 x 80						
For sauna cabin size	65–80 m <sup>3</sup>	70–90 m <sup>3</sup>	80–100 m <sup>3</sup>	100–130 m <sup>3</sup>	130–160 m <sup>3</sup>		
Minimum size Air inlets and outlets	50 x 12 cm	60 x 12 cm	70 x 12 cm	70 x 12 cm	80 x 12 cm		
Weight without rocks	~112 kg	~114 kg	~116 kg	~118 kg	~120 kg		
Stone filling	~ 120 kg, caliber 100–150 mm						
Power extension units	LSG18 + LSG36			2 x LSG36			
Electrical connection	400 V 3N ~ 50 Hz						
Connection mains – control unit	3 x 1.5 mm <sup>2</sup>						
Connection LSG – heater	2 x (5 x 4 mm <sup>2</sup> ) and 2 x (5 x 6 mm <sup>2</sup> )				4 x (5 x 6 mm <sup>2</sup> )		
Connection control unit – power extension unit	4 x 1.5 mm <sup>2</sup>						
Connection mains – power extension unit	LSG18: 5 x 6 mm <sup>2</sup> LSG36: 5 x 16 mm <sup>2</sup>						
Leakage current	Max. 0.75 mA per kW heater output						
Fuse protection for control unit	1 x 16 A						
Fuse protection for LSG unit	3 x 35 A, 3 x 63 A			2 x (3 x 50 A)	2 x (3 x 63 A)		

All line cross-section specifications are the minimum cross-sections of a copper line.

# Identification

## 2.6 Intended use

This heater is intended solely for the purpose of heating sauna cabins, together with a suitable control unit and two power extension units. EOS Mega HD is a free-standing heater that is suitable for commercially used cabins.

The heater is not suitable for outdoor use.



It must be operated only in sauna cabins and may not be exposed to environmental conditions such as extreme humidity and moisture or the possible formation of condensation or corrosive substances in the ambient air, as well as other weather conditions.

Any use beyond this is considered improper use. Proper use also includes compliance with operating, maintenance and servicing requirements.

### Foreseeable misuse

The following are considered instances of foreseeable misuse:

- The heater power does not match the sauna volume.
- The control and sensor cable plugs are plugged in incorrectly.
- The unit is operated without knowledge of or compliance with the safety instructions.
- Operating, service and maintenance requirements are not observed.
- The unit is operated after technical or other modifications are made to the relay box.
- The unit is operated with insufficient air supply or exhaust air.
- The unit is operated without sauna stones or with a rock store that is not filled as directed.
- The unit is operated by children under 8 years of age.
- The unit is operated by children 8 years of age or older, or persons with reduced mental capacity who have not been thoroughly instructed in its use.

The manufacturer is not liable for unauthorised modifications made to the equipment and damages resulting from these modifications. The person modifying the equipment alone shall bear the associated risk.

## General instructions

- Please note that an optimal sauna climate can be achieved only if the cabin with its air inlets and outlets, the sauna heater, and the control unit are synchronized.
- Observe the specifications and information provided by your sauna retailer.
- The sauna heaters heat the sauna cabin with heated convection air. Fresh air is drawn in through the air inlet. It is warmed and rises (convection) and is then circulated in the cabin. Some of the used air is pushed out of the cabin through the cabin's air outlet. This creates a typical sauna climate in which temperatures of approx. 110°C are achieved directly below the ceiling. These temperatures drop to approx. 30–40°C in the cabin along the floor.  
Therefore, it is not unusual that if the temperature sensor above the heater reads 110°C, the thermometer that is mounted approx. 20–25 cm below the cabin ceiling on the sauna wall reads only 85°C.  
When the max. temperature is set for the area around the upper sauna bench, the bathing temperature is typically between 80°C and 90°C.
- Please note that the highest temperatures in the cabin are always above the sauna heater and that is where the temperature sensor and safety temperature limiter should be mounted according to the installation instructions.
- The first time the cabin is heated, you may notice a slight odour resulting from the evaporation of consumables used in the manufacturing processes. Air out your cabin once it has been heated and before using the sauna.

# 3

## Installation

This chapter describes how to install Mega HD. Prior to installing the heater, air inlets and outlets must be installed in the cabin. It may be necessary to mount additional fans in the inlets/outlets. All protective films must be removed.

### NOTICE

#### Damage due to incorrect mounting location

The heater is not suitable for outdoor use.

- ▶ The heater must be operated only inside buildings and may not be exposed to environmental conditions such as extreme humidity and moisture or the possible formation of condensation or corrosive substances in the ambient air, as well as other weather conditions.
- ▶ The heater is not designed to be installed or set up in an alcove or under a bench or sloping roof.

### 3.1 Specifications for the cabin

The cabin must be planned and installed according to specifications before the heater is installed. It must be ensured that the heater can be removed from the cabin even after the cabin has been installed

All electrical installations laid inside the cabin must be suitable for a temperature of at least 170°C.

All lines must be routed in such a way that they are well-protected, e.g. in a cable duct.

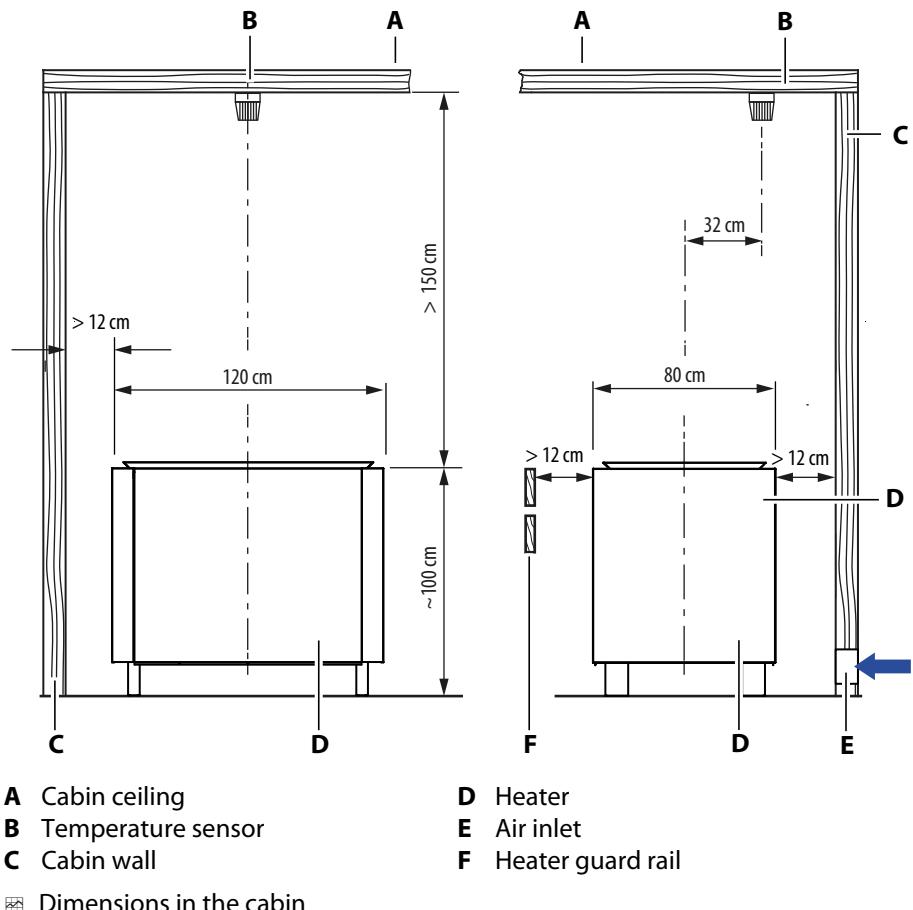
If single-core lines are used as connecting cables, they must be protected by a flexible metal hose that is connected to the protective conductor.

The minimum cross-section of the connecting cable and the recommended heater power in kW in relation to the cabin volume can be found here: 2.5 Technical data, [EN-13](#).

In general, it should be noted that the sauna heater must not be set on a floor made of highly flammable material such as laminate, flooring made of plastic material, etc. Ceramic tiles are recommended as a flooring option. Floor heating in the sauna cabin increases the temperature of the floor's surface temperature.

### 3.1.1 Installation site

- Ceiling height of at least 250 cm
- Distance between heater and cabin wall at least 12 cm
- Distance between heater and bench at least 12 cm
- The required heater power depends on the cabin volume.  
See 2.5 Technical data,  EN-13



# Installation

## 3.1.2 Air inlets and outlets

### **WARNING**

#### **Fire hazard from overheating**

The heater can overheat if the air supply is insufficient. There is a risk of death due to fire.

- ▶ Ensure that the air inlets and outlets provide sufficient ventilation. Install a fan if necessary.
- ▶ Start the sauna only after all air inlets and outlets have been opened.

### **NOTICE**

#### **Heating process takes too long**

If the heat-up process takes a long time, the underlying reason can be that the heater has an insufficient fresh air supply.

- ▶ A minimum of 5 times the cabin volume of air per hour must be exchanged.

Air inlets and outlets must be installed in the cabin to ensure a sufficient air flow in the cabin and to prevent the heater from overheating. To support ventilation, a fan can also be mounted, preferably on the side of the exhaust air.

The required size of the air inlets and outlets depends on the heater output; see 2.5 Technical data,  EN-13.

Depending on the location of the heater, the air inlet must be installed behind or below the heater.

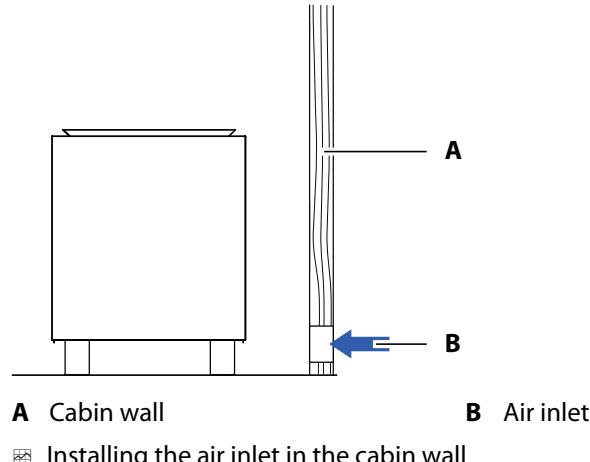
- Heater is located at the cabin wall,  EN-19
- Heater is located in the middle of the cabin or in front of a glass wall,  EN-19

## Heater is located at the cabin wall

The air inlet must meet the following criteria:

- Location: Behind the heater
- Height: 10 cm above the cabin floor

If the natural air flow is insufficient, a fan should be installed at the air inlet side, if necessary.

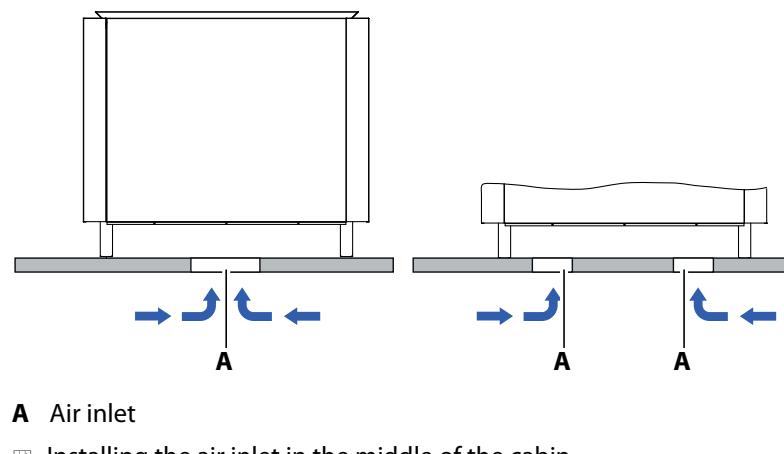


## Heater is located in the middle of the cabin or in front of a glass wall

The air inlet can be either a large opening or two small openings.

The air inlet must meet the following criteria:

- Location: Below the heater
- A duct directs fresh air to the opening or openings.
- If the natural air flow is insufficient, a fan may need to be installed at the air inlet side.



# Installation

## Air outlet

The air outlet must meet the following criteria:

- Location: across from the heater
- Height: 30–50 cm above the cabin floor

### 3.1.3 Connecting cables

The sauna heater must be connected to the control unit or control unit and relay box by means of four connecting cables. Two cables must connect to the terminal boxes on the front and two cables must connect to the terminal boxes at the rear of the heater.

Install the cables in such a way that they are protected from damage. To do this, route empty pipes from the installation site of the sauna heater to the relay boxes.

Outside of the cabin, the cables must be routed under a suitable protective cover (e.g. in a cable duct or empty conduits).

See the connection diagram  Connection diagram,  EN-27

If there are no empty pipes in your cabin, drill a hole in the cabin wall directly next to the sauna heater where the cable emerges from the sauna heater, and guide the cable through this hole outward to the control unit and relay box. The hole must be large enough to accommodate the cable. The cable and all other connecting cables (supply line to mains and cabin lighting) on the external side of the cabin must be protected from damage. To do this, use installation pipes or attach a suitable protective cover.

### 3.2 Temperature sensor

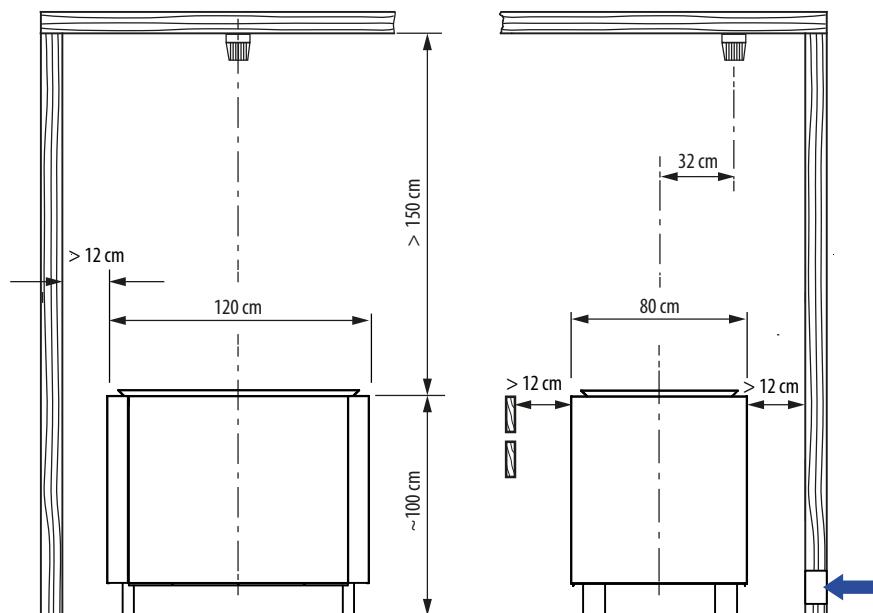
#### **WARNING**

##### **Risk of fire due to incorrect temperature sensor position**

Overheating can occur if the temperature sensor with the safety temperature limiter is installed in the incorrect position; in this case, the sensor may read a lower temperature than actually exists in the cabin. This would trigger the sauna heater to continue to heat, even though the desired temperature has already been reached.

- ▶ Install the sensor as shown in the figures for the mounting site.
- ▶ Ignore any contradictory information found in the instructions for the sauna control unit.

The heater sensor with the safety temperature limiter should be mounted as follows:



 Minimum dimensions for mounting sensor in cm

#### **NOTICE**

##### **Malfunction due to damaged temperature sensor**

The temperature sensor is protected by its housing.

- ▶ Ensure that the housing and the temperature sensor are not damaged during operation.

# Installation

## 3.3 Mounting the sauna heater

The heater is supplied mounted and packaged on a pallet.

Once the cabin is prepared, the heater is placed on a pre-defined position.

To reduce the weight of the heater for transport, the rock stores are removed. The outer casing on the long side of the heater is removed.

Four people should always carry the heater.

Two people should always install the rock stores.

Tool:

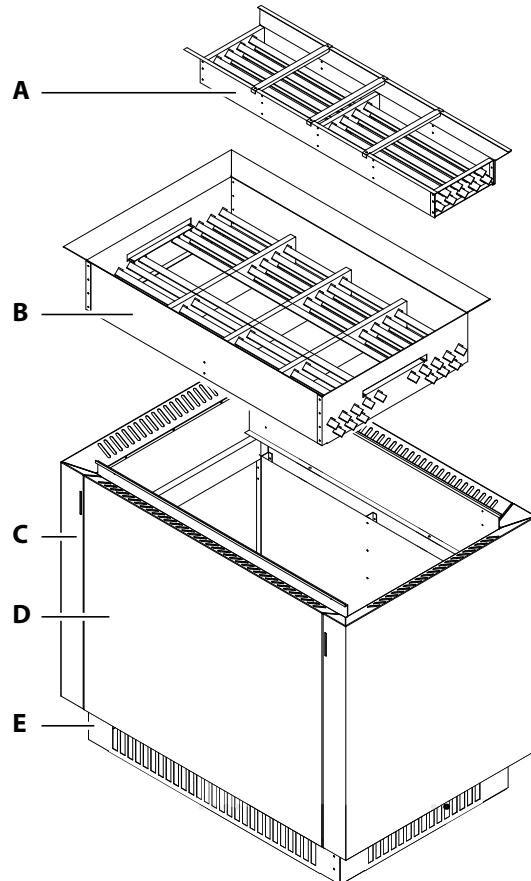
- Screwdriver

Necessary steps:

- ▶ Unpacking the heater, □ EN-23
- ▶ Opening the heater housing, □ EN-24
- ▶ Setting up the heater, □ EN-25

**► Unpacking the heater**

- 1 Remove the heater from the packaging and leave the heater on the pallet.  
 *ⓘ The rock stores (A) and (B), the outer casing (D) and the base covers (E) have already been installed.*



**A** Middle rock store  
**B** Bottom rock store  
**C** Housing

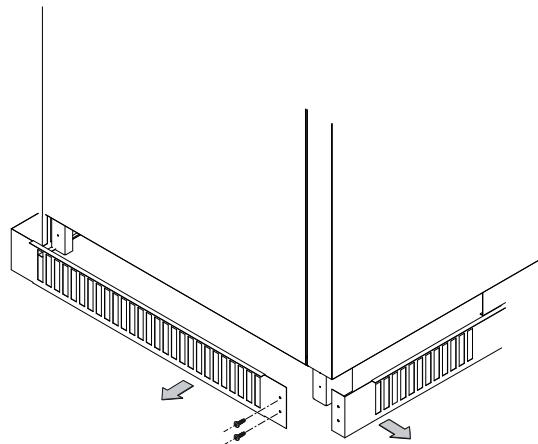
**D** Outer casing  
**E** Base cover

- 2 Lift the middle rock store (A) and bottom rock store (B) from the heater.  
 *ⓘ The V-shape profiles are loosely fitted in the openings. Ensure that they do not fall out.*
- 3 Remove all transport locks and the protective film.

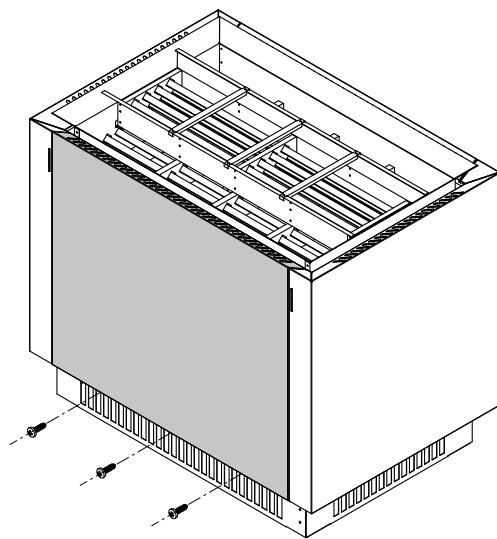
# Installation

## ► Opening the heater housing

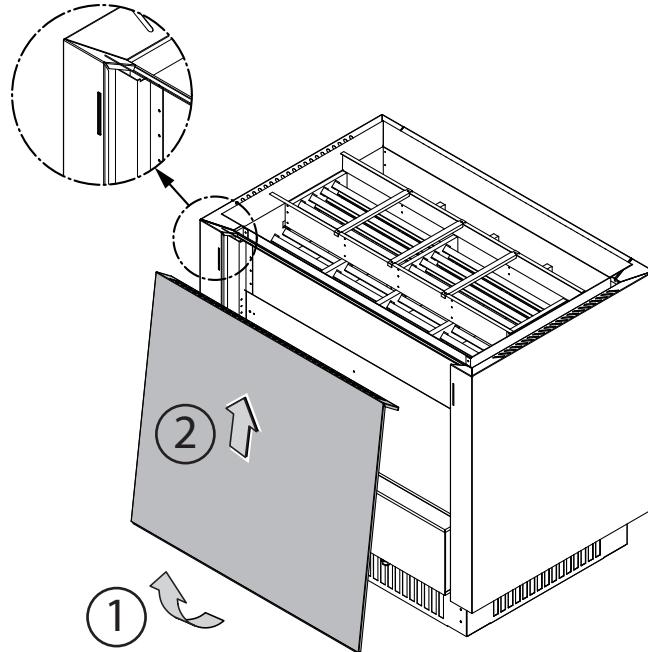
- 1 Unscrew the 4 screws from the base covers.  
① There are 2 screws on the right side of each long side.



- 2 Remove the base covers.
- 3 Unscrew the 3 retaining screws at the bottom of the outer casing.  
① The dismantling process is identical on both sides.



- 4 Swivel the outer casing forward and lift it upwards.



## ► Setting up the heater

- 1 Move the pallet with the heater as close to the pre-defined installation site as possible.
- 2 CAUTION! The heater weighs a min. of 112 kg. Four people should always move the heater.  
Lift the heater from the pallet and move it to the pre-defined installation site.

## Electrical installation

# 4

## Electrical installation

This chapter describes how EOS Mega HD is connected to the power extension units.

### 4.1 General instructions for electrical installation

Ensure that electrical installation is performed in compliance with the standards and legal norms valid in your country.

Observe the following regulations when installing sauna heaters: IEC 60364-7-703 and/or DIN VDE 0100 part 703:

This most recent version of the standard under amendment of paragraph 703.412.05, states the following:

“The additional protection must be provided for all of the sauna's electric circuits by one or more residual current devices (RCDs) with a rated differential current no greater than 30 mA, with the exception of sauna heaters.”

If a residual current device (RCD) is installed, ensure that there are no other electrical consumers not belonging to the sauna system which are fused via this RCD.

If the sauna heater has not been used for an extended period of time, the heater may draw moisture from the ambient air, which, in rare cases, could lead to the RCD to be tripped. This is a physical process and not a fault on the part of the manufacturer.

In this case, the heater must be heated by a technician under supervision which will bypass the RCD function. Once the moisture has escaped from the heating elements after approx. 10 minutes, the RCD can be integrated again in the electric circuit.

If the sauna heater will not be used for an extended period of time, we recommend that you switch on the heater every 6 weeks so that the heating elements do not accumulate moisture. If, during commissioning, the RCD is triggered, the electrical installation must be checked again.

The electrician is responsible for properly connecting the heaters; thus, the manufacturer does not assume liability.

## 4.2 Connection diagram

The sauna control unit, the power extension units, and the heater must be connected as shown in the circuit diagrams.

### ⚠ WARNING

#### Risk of fire due to improper mounting

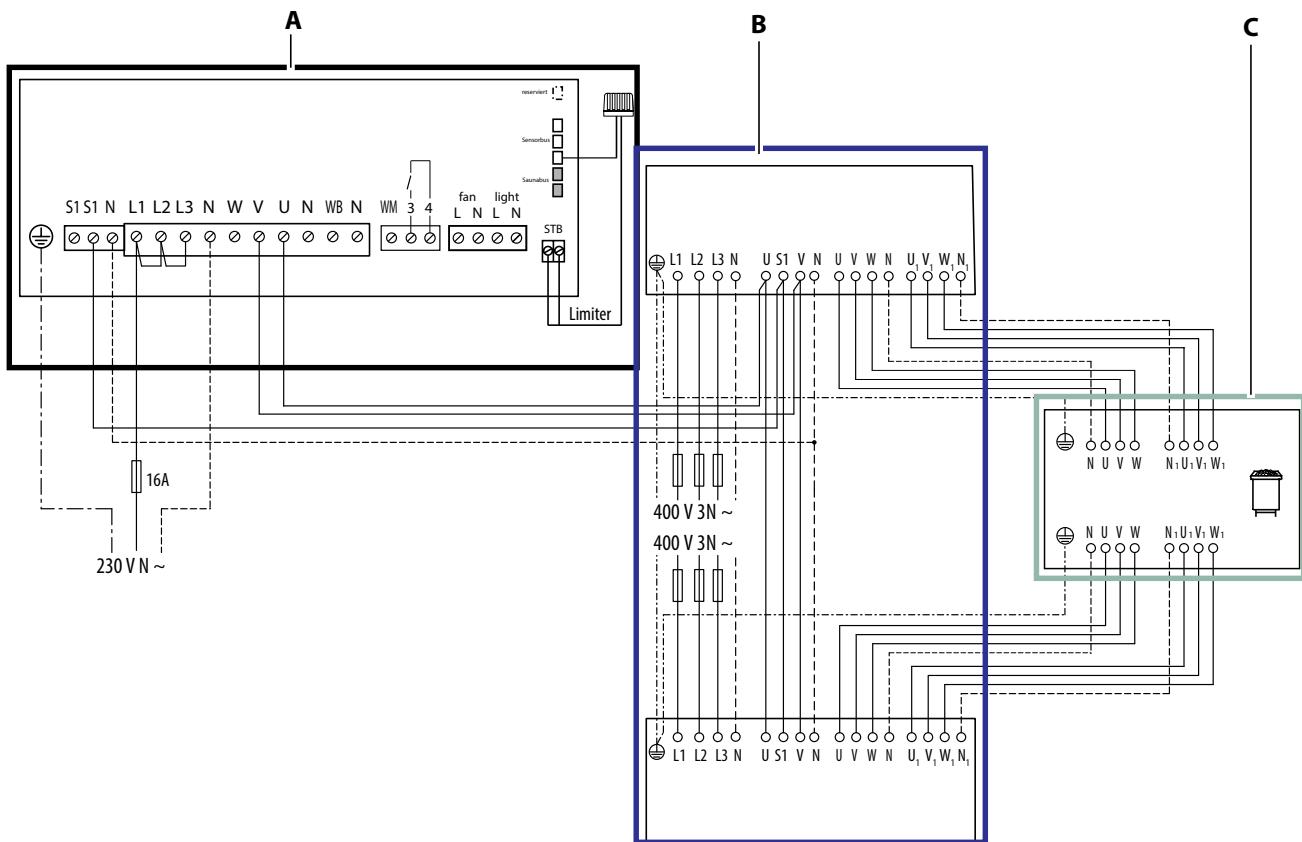
The control unit and the sauna heater are designed for connection to 400 V 3N ~.

- Use suitable fuses and cable lines.

### NOTICE

#### Damage to device from surges

- Make sure to always connect neutral conductor N.



**A** Sauna control unit

**B** Connection for power extension units

**C** Connection in Mega HD

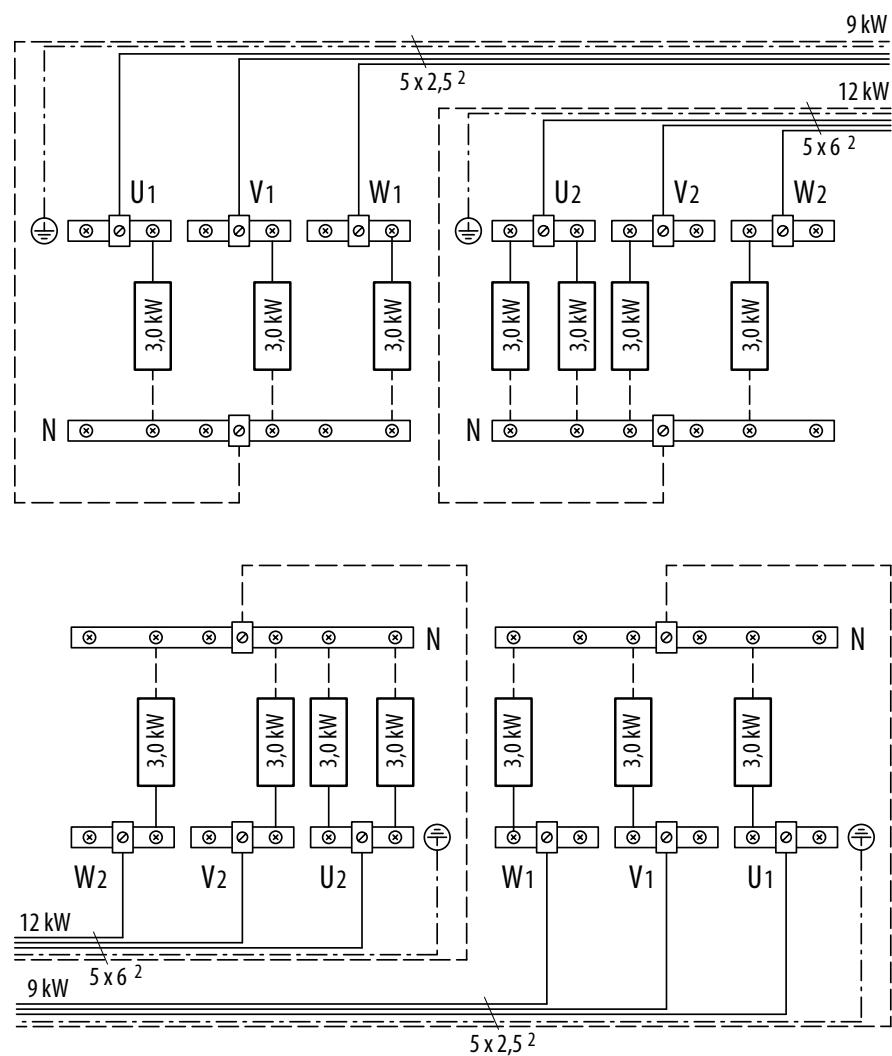
# Electrical installation

## 4.3 Internal wiring

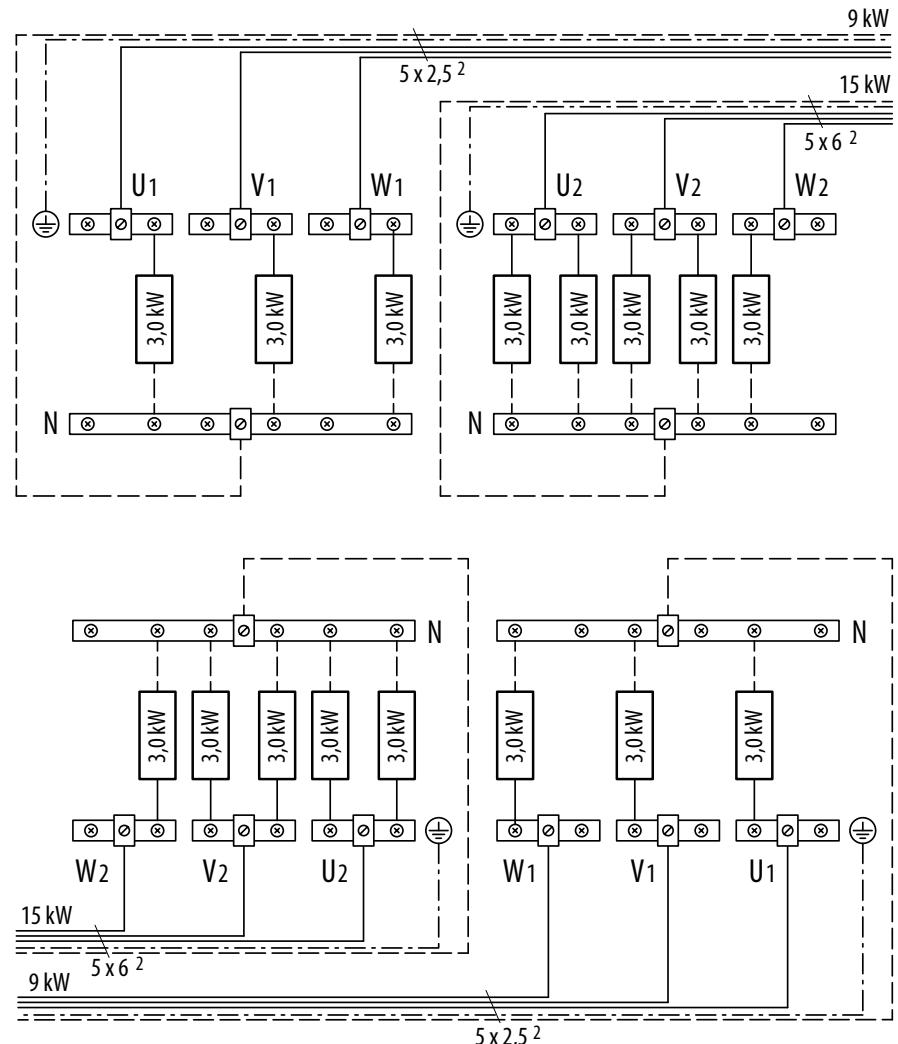
The heater is connected to the two power extension units with four connecting cables. Each heating coil is connected to both power extension units with two cables.

The heating coil cable connection is identical for each heating coil. The internal wiring differs depending on the heater output.

### 42 kW heater output

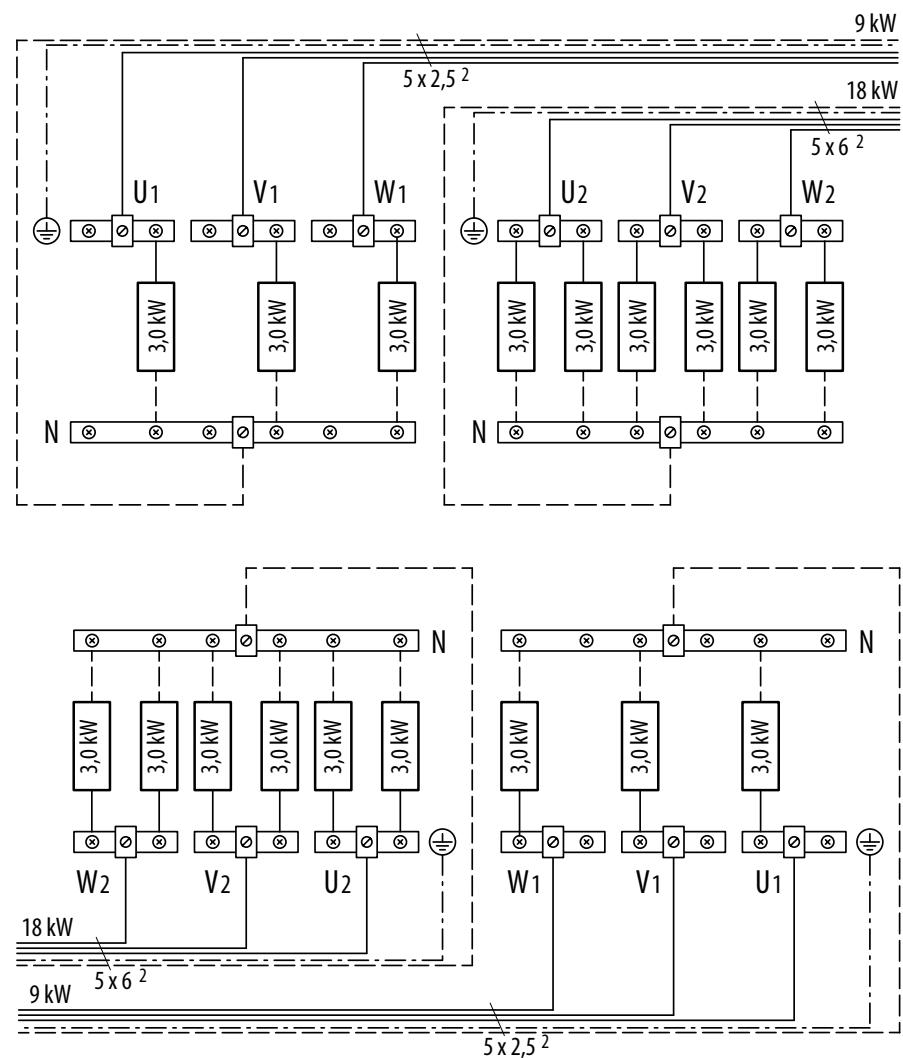


## 48 kW heater output

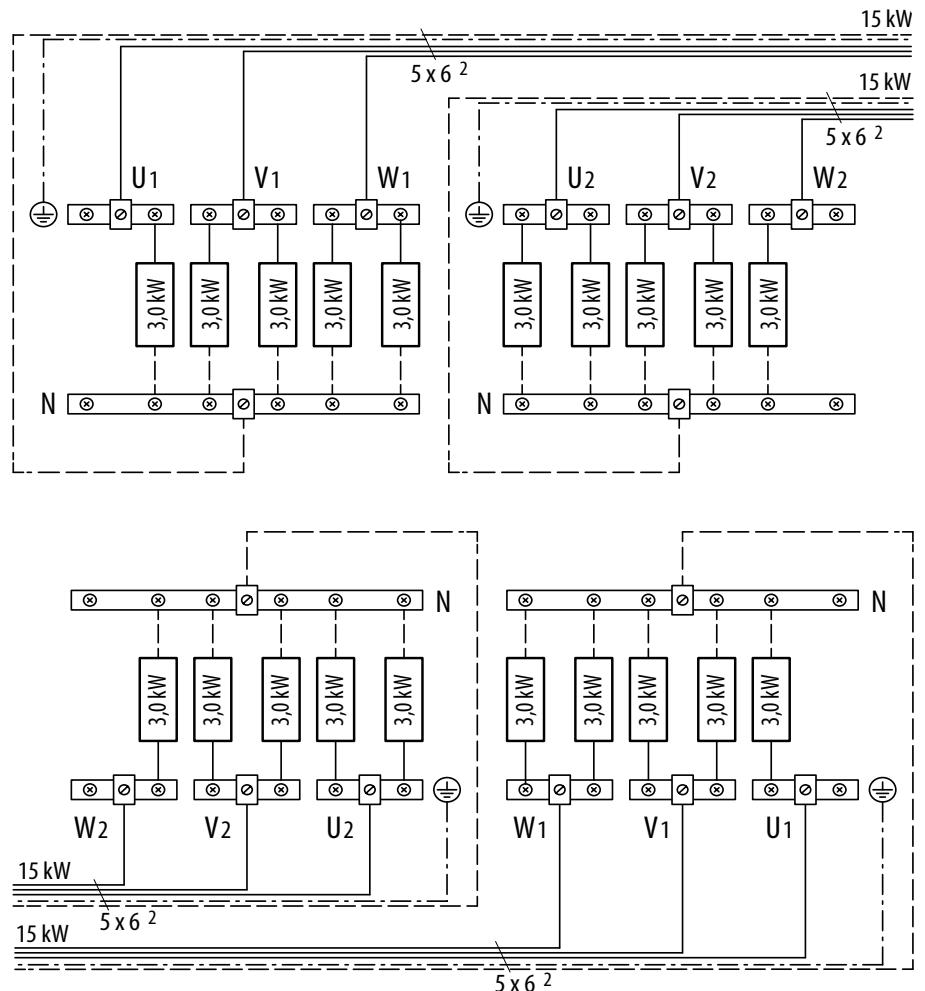


# Electrical installation

## 54 kW heater output

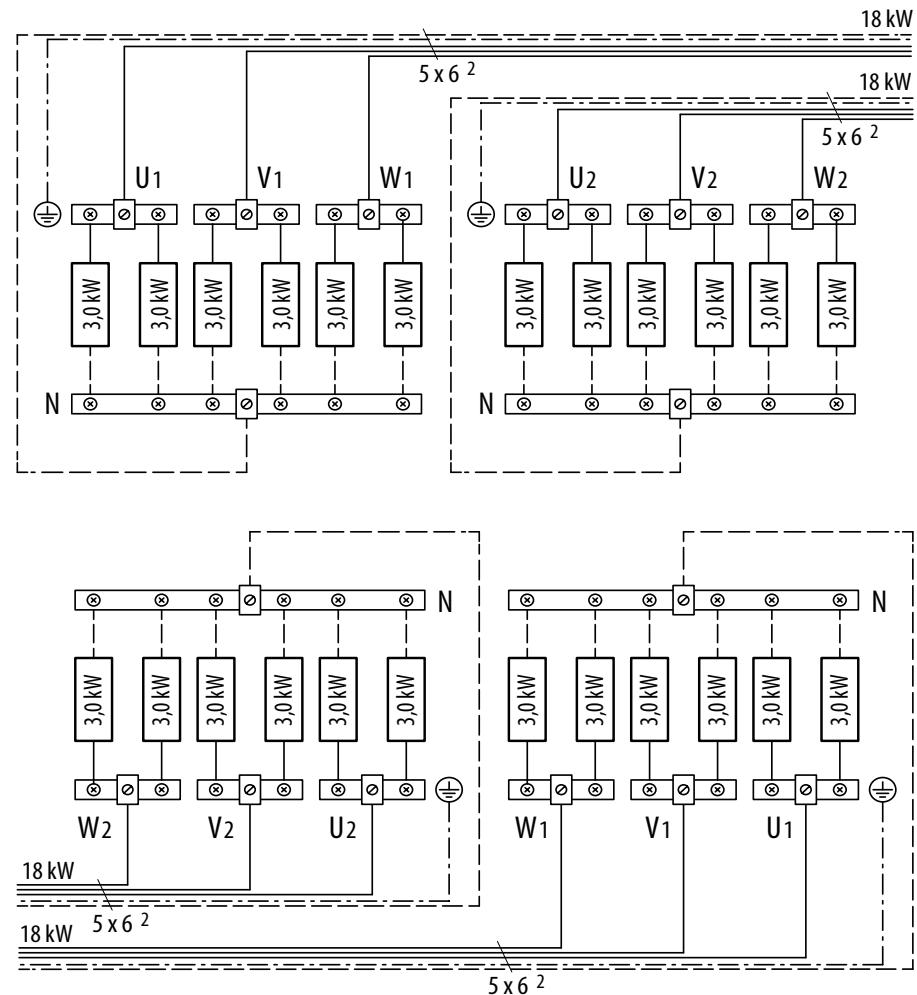


## 60 kW heater output



# Electrical installation

## 72 kW heater output



## 4.4 Establishing an electrical connection

The electrical lines should be connected prior to placing the heater in its final location because the connections for the heating coils are located on each long side of the heater. Two connecting cables must be connected to the busbars. The procedure for connecting the connecting cables is identical for both sides.

Necessary steps:

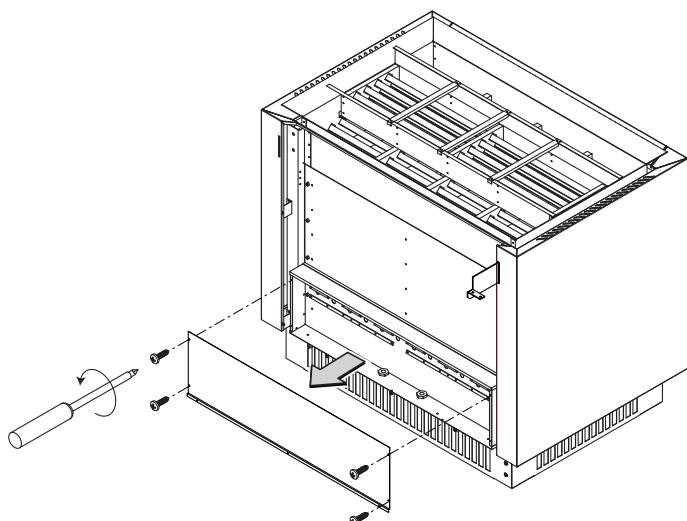
- ▶ Opening the terminal box, □ EN-33
- ▶ Connecting the connecting cables, □ EN-34
- ▶ Closing the housing, □ EN-35
- ▶ Placing the rock stores in the heater, □ EN-36

Tools:

- Screwdriver

### ▶ Opening the terminal box

- 1 Dismantle the base covers and outer casing.  
① See ▶ Opening the heater housing, □ EN-24
- 2 Unscrew the 4 retaining screws from the terminal box cover.

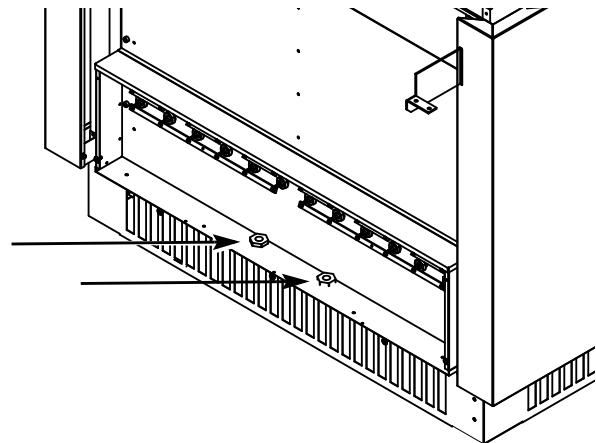


- 3 Remove the terminal box cover.

# Electrical installation

## ► Connecting the connecting cables

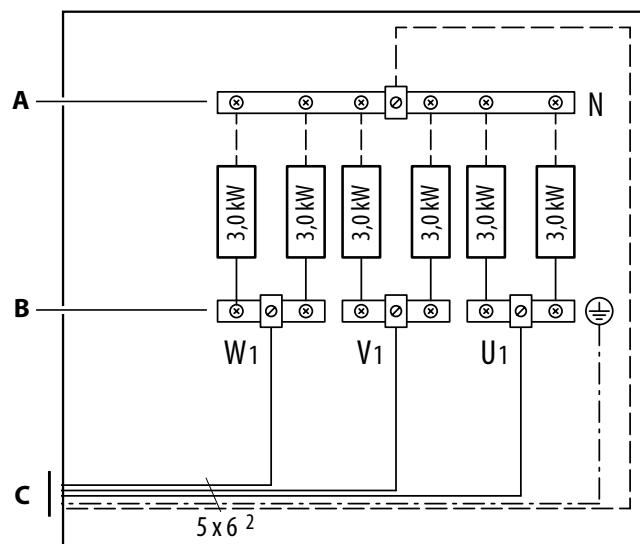
- 1 Feed the connecting cables through the openings in the terminal box.



- 2 Crimp the wire ends.

- 3 Connect the lines:

- a) Connect the neutral conductor to the N-terminal on the busbar (A).
- b) Connect the phases to the terminals (B) for the 3 phases.
- i) Use a torque of 2.5–3 Nm.



**A** Busbar for neutral conductor

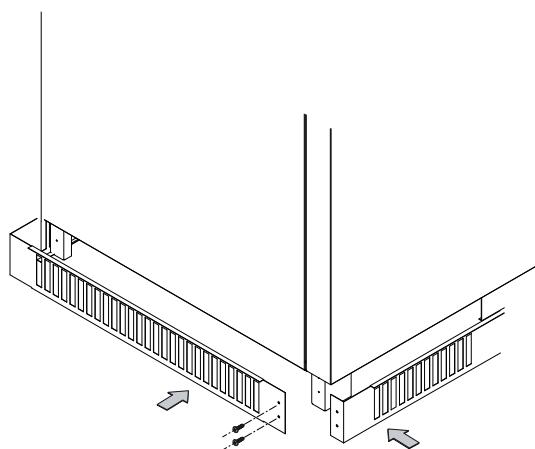
**B** Supply terminals for phases

**C** Connecting cables

- 4 Perform all steps for the second heating coil on the other side of the heater.

## ► Closing the housing

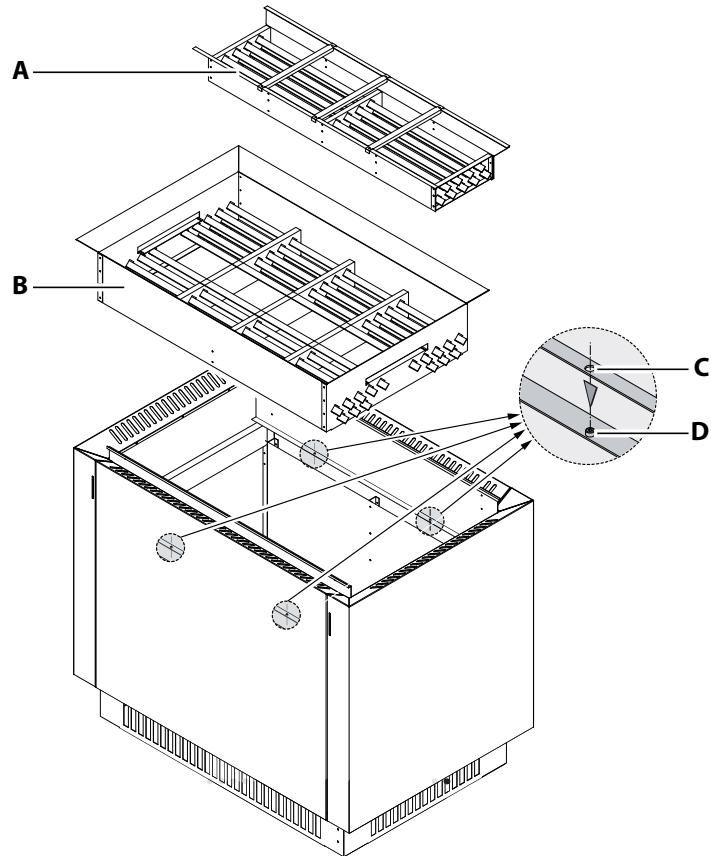
- 1** Re-install the terminal box cover.
- 2** Screw in the 4 retaining screws and tighten them.
- 3** Re-install the outer casing.
- 4** Screw in the 3 retaining screws at the bottom of the outer casing and tighten them.
- 5** Mount the base covers with 4 screws.



## Electrical installation

### ► Placing the rock stores in the heater

- 1 **NOTICE** The V-shape profiles must be positioned in the middle of the provided openings.  
Place the bottom rock store (**B**) in the housing.



**A** Middle rock store  
**B** Bottom rock store

**C** Openings for locking mechanism  
**D** Cylinder screws

- 2 Place the openings for the locking mechanism (**C**) above the cylinder screws (**D**).
- 3 Place the middle rock store (**A**) on the bottom rock store so that it is fixed to the support rail by means of the side straps.

## 4.5 Heating period limitation

All sauna heaters, except for those installed in public saunas, and which must be operated under the supervision of personnel, must be equipped with a timer that complies with IEC and EN standards. For safety reasons, this timer limits the operation time. This timer is typically integrated in all EOS sauna control units.

- The operation time of a public sauna must be limited so that the heating elements are without power for a minimum of 6 consecutive hours within a 24-hour period before an independent restart can take place.
- Units used in private saunas must be limited to an operating time of 6 hours, and an automatic restart is not permitted.

## Commissioning

# 5

## Commissioning

Before the sauna heater can be commissioned, it must be filled with sauna stones, which are available as optional accessories.

Before switching it on, ensure that the air inlets are free of lint. Remove any lint with a moist towel.

The heater is switched on via the control panel for the control unit. In the process, the power extension units (LSG) switch on together with the heater. It is operated via the control panel.



### **⚠ WARNING**

#### **Risk of fire due to objects on the sauna heater**

Objects placed on the sauna heater could catch fire. Herbs placed on the heater could catch fire.

Herbs or similar substances used for aroma infusion purposes, which are located near the heater, could catch fire.

- ▶ Inspect the cabin prior to each use and ensure that no objects are placed on the sauna heater.
- ▶ Start the sauna only after all air inlets and outlets have been opened.

## 5.1 Filling rock stores with stones

The heater is intended for use with natural stones. Use only natural sauna stones of the prescribed caliber of 100–150 mm.

### ⚠ WARNING

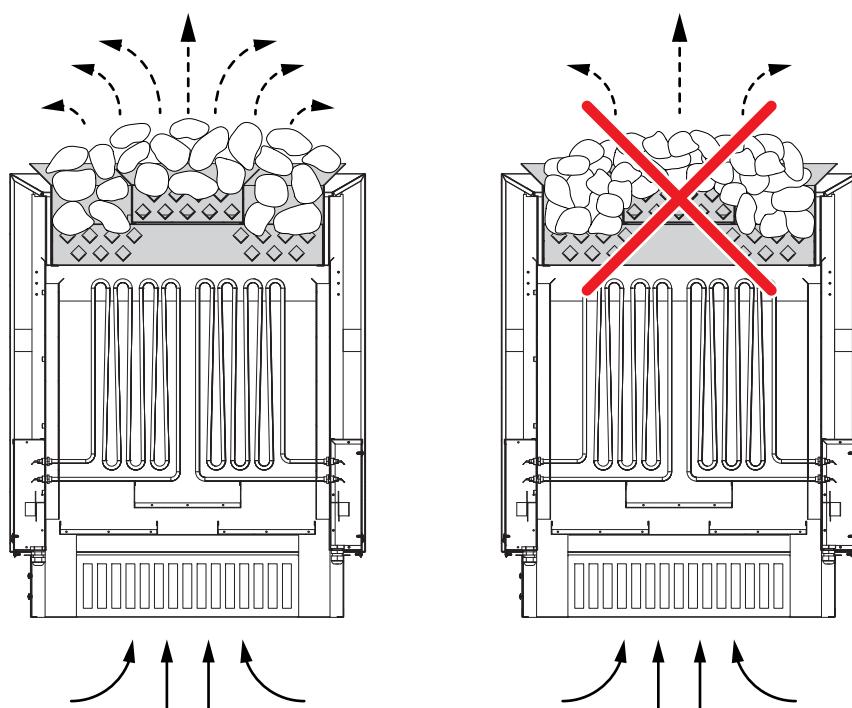
#### Fire hazard from overheating

Operating the heater without stones could cause fire or damage to the heater. Stones that are too small or are positioned too close together in the heater prevent hot air from being exhausted. This leads to overheating of the heater.

- ▶ Start the heater only if it has been filled with stones.
- ▶ Ensure stones with the correct caliber are used: 100–150 mm.
- ▶ Place the stones loosely in the rock store.

#### ▶ Filling rock stores with stones

- 1 Thoroughly rinse the stones with running water.
- 2 Stack each stone loosely in the rock store leaving sufficient space between them.
  - ⓘ There must be enough space between the stones so that convection air can circulate sufficiently between them.
  - ⓘ Fill the store with stones only to the upper edge.



# Commissioning

## 5.2 Starting the heater

A slight odour may be produced the first time the cabin is heated because the heater is being heated for the first time. The odour ceases upon continued operation of the heater.

### ► **Switching the system on**

- 1** Switch on the sauna heater at the control unit.
- 2** Use the control unit to select a suitable program.

## 5.3 Switching the heater on remotely

If you switch on the heater remotely, ensure that no objects are placed on the heater. A suitable safety system, for example EOSafe D/L, can be used to prevent this.

## 5.4 Water splash

Before the first water splash can be carried out, the cabin must be sufficiently heated. The temperature sensor checks the temperature and, via the control panel, indicates when the desired temperature has been reached.

### **WARNING**

#### **Risk of fire due to sauna essences**

Incorrectly diluted sauna essences, essential oils or herbs can catch fire.

- ▶ Never add more sauna essence or essential oils to the water than the amount indicated on the container.
- ▶ Do not add herbs to the water or the stones.
- ▶ Do not use pure sauna essences for water splashes.
- ▶ Do not use alcohol for water splashes.
- ▶ Pour the water over the stones only.

Pour water slowly over the stones so it is evenly distributed.

As the hot air rises, steam is distributed evenly in the cabin to create a pleasant infusion experience.

Please note that the sauna stones must be reheated after each water splash to generate an intense burst of steam.

Recommendation: During a water splash, no more than approx. 10 cL of water per m<sup>3</sup> cabin volume should be vaporised. After each water splash, wait

approx. 10 minutes before starting the next one. This time is needed for the sauna stones to reheat.

## Service and maintenance

# 6

## Service and maintenance

This sauna heater is made of low-corrosion material. To ensure a long service life, take care of and perform regular maintenance on your sauna heater. Ensure that openings in the intake area and heat reflectors are never blocked. These can easily become blocked with lint and dust as fresh air is drawn in. This limits the air convection ability of the sauna heater and could lead to impermissible temperatures.

Clean the units as needed. Contact your sauna retailer or the manufacturer directly if you notice malfunctions or signs of wear and tear.

If you do not use your sauna for a longer period of time, ensure that at the time of recommissioning no towels, cleaners or other objects are lying on the sauna heater.

Contact your sauna retailer or the manufacturer directly if you notice malfunctions or signs of wear and tear.

### 6.1 Cleaning

The sauna heater must be cleaned regularly. The cleaning frequency depends on how often it is used.

#### CAUTION

##### Risk of injury from sharp edges

- ▶ Use suitable personal protective equipment, e.g. gloves, when cleaning parts with sharp edges.

##### ▶ Cleaning the heater

- 1 Switch off the heater from the control unit.  
① Wait until the heater has cooled completely.
- 2 Clean the exterior and the accessible interior parts of the heater with a household cleaning agent.
- 3 Remove lint and dust from openings and heat reflectors.  
① Openings can easily become blocked with lint and dust as fresh air is drawn in. This limits the air convection ability of the sauna heater and could lead to impermissible temperatures.

## 6.2 Sauna stones

Sauna stones are a product of nature. Sauna stones must be replenished or reshuffled depending on the intensity of use.

The process of heating and cooling can make the stones brittle. Particular damage to the sauna stones can be caused by aggressive sauna essences, causing them to disintegrate over time. Small particles can break off from the stones. The gaps between the stones also become smaller which means that hot air can no longer rise between the stones.

Check the sauna stones regularly and reshuffle them. Replace damaged stones.

Please observe the following frequencies of time.

Commercial use	Private use
Every 2–3 months	Once per year

Use only natural sauna stones when you refill the rock store. Due to their roughness, they produce a better water splash effect than ceramic sauna stones.

### ► Reshuffling the sauna stones

- 1 Switch off the heater from the control unit.
- 2 CAUTION! Caution: stones may be hot. Allow the heater to cool sufficiently before you start to replace the stones.  
Remove each stone individually.
- 3 Check each stone for damage.
  - ⓘ Discard any stones with severe damage.
  - ⓘ Replace discarded stones: new stones should have a caliber of 100–150 mm
- 4 Rinse all stones with cold water.
- 5 Stack each stone loosely leaving sufficient space between them.
  - ⓘ 5.1 Filling rock stores with stones, □ EN-39

## Service and maintenance

### 6.3 Replacing the tubular heating elements

You can replace individual tubular heating elements or the entire heating coil. One heating coil is installed on each long side of the heater. The process for dismantling the heating coils is identical on each side.

If the heater is too close to the wall, it may be necessary to move it so that you can access the rear side. To move the heater more easily, remove stones.

The following steps must be completed:

- ▶ Opening the heater housing, □ EN-24
- ▶ Opening the terminal box, □ EN-33

Necessary steps:

- ▶ Removing the heating coil, □ EN-45
- ▶ Replacing a tubular heating element, □ EN-46
- ▶ Inserting the heating coil, □ EN-46

Hardware + tools:

- Tubular heating element and/or heating coil
- Screwdriver
- Hex key SW 5
- Ring or socket spanner SW 22

#### CAUTION

#### Risk of injury from sharp edges

- ▶ Use suitable personal protective equipment, e.g. gloves, when cleaning parts with sharp edges.

## ► Removing the heating coil

### 1 WARNING!

Ensure that the heater has been disconnected from all power supply lines.

**a)** Switch off the heater.

**b)** Switch off the fuses to disconnect the heater from the mains supply.

### 2 Dismantle the base covers and outer casing.

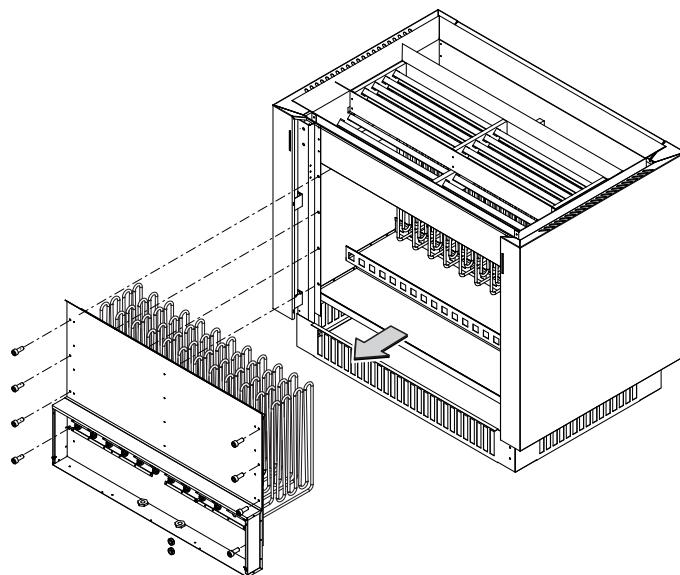
**i** See ► Opening the heater housing, □ EN-24

### 3 Open the terminal box.

**i** See ► Opening the terminal box, □ EN-33

### 4 Loosen the connecting cable from the connection terminals.

### 5 Unscrew the 8 hexagon socket screws on the heating coil.



### 6 Remove the heating coil.

**i** Insert the new heating coil.

See ► Inserting the heating coil, □ EN-46

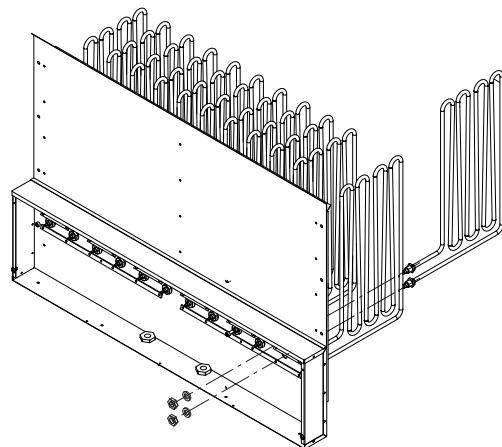
**i** Replace the tubular heating element.

See ► Replacing a tubular heating element, □ EN-46

# Service and maintenance

## ► Replacing a tubular heating element

- 1 Remove the heating coil.  
① See ► Removing the heating coil, □ EN-45
- 2 Identify the defective tubular heating element by taking measurements.
- 3 Detach the defective tubular heating element from the power strip.
- 4 Loosen both hexagon nuts of the tubular heating element to be replaced located in the terminal box.



- 5 Remove the tubular heating element.
- 6 Insert the new tubular heating element and tighten it in place with the hexagon nuts.
- 7 Connect the new tubular heating element with the power strip.
- 8 Reinsert the heating coil.  
① See ► Inserting the heating coil, □ EN-46

## ► Inserting the heating coil

- 1 Insert the heating coil.
- 2 Screw in the 8 hexagon socket screws and tighten them.
- 3 Connect the connecting cable.  
① See 4.3 Internal wiring, □ EN-28
- 4 Close the heater housing.  
① See ► Closing the housing, □ EN-35
- 5 Restart the heater.

## 6.4 Troubleshooting

Error	Reason	Solution
It takes the heater a long time to heat up the cabin.	Some tubular heating elements are defective.	Replace the tubular heating element or heating coil. See 6.3 Replacing the tubular heating elements, ▶ EN-44
	There is not enough space between the stones.	Reshuffle the stones. See ▶ Reshuffling the sauna stones, ▶ EN-43
	There is insufficient ventilation.	Install the air inlets. If these are insufficient, add a fan to the openings. See 3.1.2 Air inlets and outlets, ▶ EN-18
The heater is very hot but cannot distribute the heat throughout the cabin.	There is not enough space between the stones.	Reshuffle the stones.

## General terms and conditions of service

# 7

## General terms and conditions of service

(T&C, Dated 08-2018)

### I. Scope

Unless otherwise agreed in writing for specific instances, these terms and conditions of service shall apply to service operations, including reviewing and remedying complaints. All our existing or future legal relationships shall be governed solely by the following terms and conditions of service. We do not recognise any of the customer's conflicting terms and conditions unless we have given our express written consent to their applicability.

We hereby expressly object to any of the customer's terms and conditions included in the customer's General Terms and Conditions of Business or order confirmation. Unconditional acceptance of order acknowledgments or deliveries shall not be construed as any form of acknowledgment of such terms and conditions. Ancillary agreements or amendments must be confirmed in writing.

### II. Costs

The customer shall bear the following costs in connection with services rendered:

- Mounting/dismantling and electrical (de-)installation
- Transportation, postage and packaging
- Function testing and troubleshooting, including inspection and repair costs

There shall be no third-party billing.

### III. Performance and cooperation obligations

The customer shall provide assistance free of charge to the manufacturer in rendering services.

In the case of a warranty claim, the manufacturer shall provide spare parts necessary for servicing free of charge.

## **IV. Service visit by the manufacturer**

Services rendered on site by an employee of the manufacturer must be agreed in advance.

If the main reason for the service visit is not the fault of the manufacturer, any costs incurred shall be charged to the customer after the service visit and must be paid by the customer in full within the agreed payment term.

## **V. Liability**

The manufacturer shall assume liability in accordance with the currently applicable statutory regulations. All our products are packaged in such a way that the individually packed goods (pallets) can be shipped.

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

## **VI. Manufacturer's warranty**

The manufacturer's warranty shall apply only if installation, operation and maintenance have been carried out in full accordance with the manufacturer's specifications in the installation and operating instructions.

- The warranty period shall commence from the date on which proof of purchase is provided and shall be limited, in all cases, to 24 months.
- Warranty services shall be performed only if proof of purchase of the equipment can be presented.
- Any and all warranty claims shall become void if modifications are made to the equipment without the manufacturer's express consent.
- Any warranty claim shall likewise become void in the case of defects that arise due to repairs or interventions made by unauthorised persons or due to improper use.
- In the case of warranty claims, the serial and article numbers must be provided, together with the unit designation and a meaningful description of the error.
- This warranty shall cover defective equipment parts, with the exception of normal wear parts. Wear parts shall include, for example, light sources, glass elements, tubular heating elements and sauna heater stones.
- Only original spare parts may be used within the warranty period.
- Service visits made by third parties shall require a written order issued by our service department.
- The equipment in question shall be sent to our service department by the customer at the customer's own expense.
- Electrical assembly and installation work, including service visits and parts replacements, shall be carried out at the customer's expense; costs shall not be borne by the manufacturer.

## General terms and conditions of service

Complaints in respect of our products shall be reported to the responsible distributor and shall be handled exclusively by said distributor. The manufacturer's General Terms and Conditions of Business, in the version available at [www.eos-sauna.com/agb](http://www.eos-sauna.com/agb), shall apply in addition to the foregoing terms and conditions of service.

# 8

## Disposal



Electrical devices that are no longer needed must be recycled at a recycling station as per EU guideline 2012/19/EU or as per the Electrical and Electronic Equipment Act (ElektroG). Observe local provisions, laws, regulations, standards and directives when disposing of the unit.



Do not dispose of the unit with household waste.

### Packaging

The packaging of the unit can be completely separated for disposal and recycled. The following materials are used in the packaging:

- Used paper/cardboard
- Plastic foil

### Electronic waste

Electronic waste must be disposed of at the designated local collection point for electronic waste.

### Disposal instructions for commercial users (DE only)

You can find further disposal instructions under [www.eos-sauna.com/recycling](http://www.eos-sauna.com/recycling).

## **Service address**

EOS Saunatechnik GmbH  
Schneiderstriesch 1  
35759 Driedorf, Germany  
Tel. +49 2775 82-514  
Fax +49 2775 82-431  
Email [servicecenter@eos-sauna.com](mailto:servicecenter@eos-sauna.com)  
Web [www.eos-sauna.com](http://www.eos-sauna.com)

Store this address with the installation and operating instructions in a safe place.

Please always provide us with nameplate data, such as model, item number and serial number so we can provide fast and efficient support.

## **Date of sale**

**Stamp/retailer signature:**