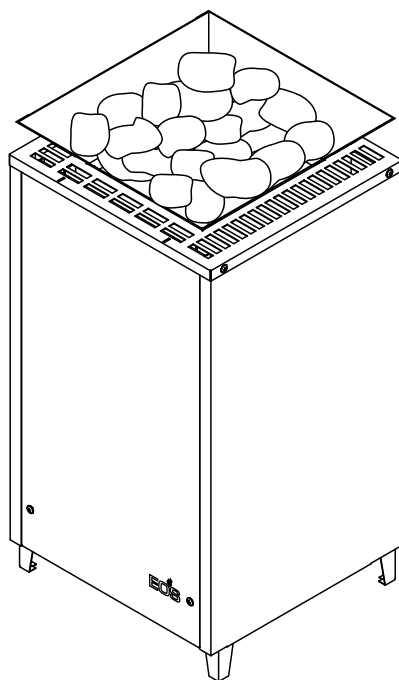
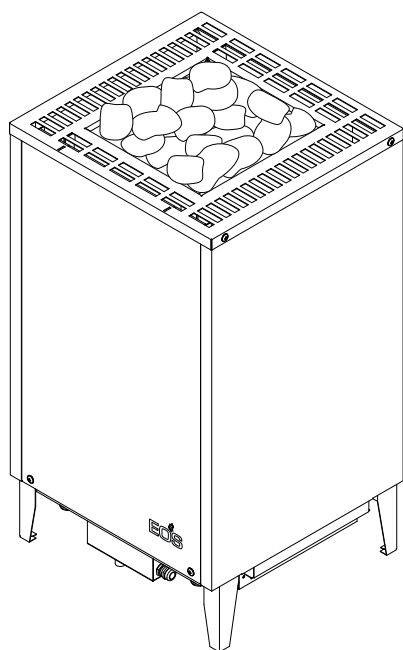


# EOS Cubo / Cubo Avantgarde

Heater for Sauna Cabins



Installation and Operating Instructions

**Made in Germany**

# Documentation

## Manufacturer

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## Original installation instructions EN

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## Characters, symbols and illustrations

-  Additional information about an operating step
-  Cross-reference to a page
-  Read instructions
-  Result of a step
-  Table title
-  Title of figure
- $\leq \geq$  Less than or equal to, greater than or equal to

## Revision history

Date	Version	Description
1 May 2022	01.00	First version

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# 1 General safety instructions

## 1.1 Mounting and electrical installation



The 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, relay boxes and other electrical systems or equipment with a fixed mains connection must only be performed by a trained electrician from an authorized 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 qualified electrician.

### **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.

### **Risk of burns from hot glass**

Glass surfaces in the cabin become hot while the sauna is in operation.

- ▶ When installing the cabin, ensure that the touchable glass surfaces on its outside do not exceed a maximum temperature of 76°C/169°F. Appropriate protection may need to be installed.

### **Risk of burns from hot unit**



During operation, the sauna heater may become hot and, if touched, could cause burns.

- ▶ Maintain a safe distance.

### **Sauna cabin and heater**

The sauna cabin must be constructed with proper material and built in a professional manner, and the heater must be suited for the cabin.

- ▶ Sauna heaters and control units may only be used in sauna cabins made of suitable, low-resin and untreated material (e.g., Nordic spruce).
- ▶ Multiple heaters may be installed in one sauna if the heater power 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.
- ▶ The sauna heater is not designed to be installed or set up in an alcove or under a bench or sloping roof unless the sauna heater is specifically designed and approved for this type of installation.

- ▶ Receptacles may not be installed inside the sauna cabin.
- ▶ Each sauna cabin must have air inlets and outlets. The air inlets and outlets may be installed below or behind the sauna heater, approx. 5–10 cm/2–4 inches above the floor. The minimum dimensions of the air inlets and outlets can be found here: 2.4 Technical data,  EN-17, 3.1.3 Air inlets and outlets,  EN-25.
- ▶ The exhaust openings are always installed in the lower part of the wall diagonal to the sauna heater. The supply and exhaust openings must not be closed. Please observe the instructions provided by your sauna cabin manufacturer.
- ▶ Use one of the control units listed below to check and control the sauna heater. This control unit is fixed to a suitable location on the cabin's external wall, and the corresponding sensor housings according to the installation instructions that accompany the control units inside the sauna cabin.
- ▶ 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.

## 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.

The operator must make the end user aware of safety instructions that are relevant to the end user.

The operator must be familiar with the settings for the heating period and understand how it is controlled.

### 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 qualified electrician.
- ▶ Repairs and installations must only be performed by a trained electrician.
- ▶ 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 or protective grilles can easily be ignited and cause fires.

- ▶ Attach the heater guard rail.
- ▶ Do not place objects on the heater.
- ▶ Fill the stone grate as directed.
- ▶ Inspect the sauna cabin prior to each use.
- ▶ If you switch on the heater using pre-set timers or remotely, attach a protective cover to the heater or 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.

## 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 fetus in the case of pregnant women, inability to physically leave the room, 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**

Children and persons with reduced mental capacity can put themselves at risk.

- ▶ Children must be supervised to ensure they do not play with the unit.
- ▶ Children under 8 years of age should not operate the sauna cabin.
- ▶ The settings for the heating period may only be changed by children over 8 if they are supervised by an adult.
- ▶ The sauna cabin must only be used by persons with reduced mental capacity or limited physical or sensory abilities under supervision or if they have been previously instructed in its use and understand the risks.
- ▶ Children and persons who have not received proper instruction must not clean or service the system.

### 1.3 Heater and cabin labels

The following labels must be attached in accordance with UL 875 – Electric Dry-Bath Heaters.

#### Heater – left side

**⚠ WARNING**

**REDUCE THE RISK OF FIRES**

Do Not Install Closer Than 900 mm (or 35,4 inches)  
To A Horizontal Surface (Ceiling).

EMOTEC, F82, 2019/04

**⚠ AVERTISSEMENT**

**RÉDUIRE LE RISQUE D'INCENDIE**

Ne pas installer à moins de 900 mm (ou 35,4 pouces)  
d'une surface horizontale (plafond).

EMOTEC, F82, 2019/04

Observe the important additional instructions in the manual Suitable for damp location.  
Consultez les instructions supplémentaires importantes dans le manuel Convient pour un emplacement humide

	mm	inch
A	40	1,6
B	900	35,4

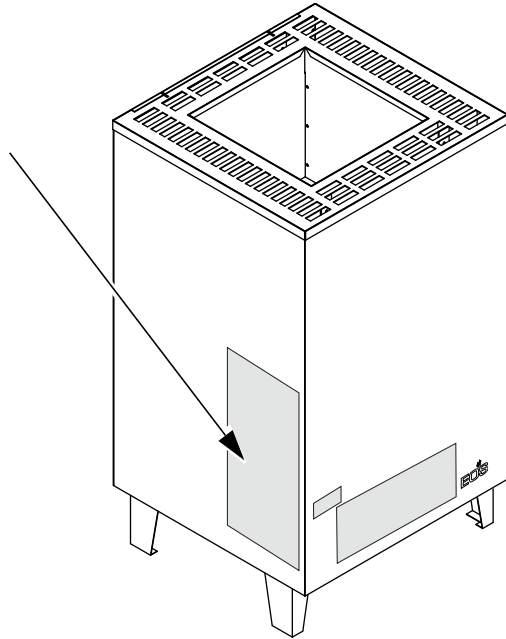
Print no. 29345297 / 14.22

**FOR SUPPLY CONNECTIONS USE ONLY COPPER WIRE CABLE SUITABLE FOR AT LEAST 90° C.**  
**POUR LES CONNEXIONS ÉLECTRIQUES PREVOIR UN CABLAGE DE CUIVRE RÉSISTANT AU MOINS À 90° C.**

Heater output Puissance du poêle	Cabin volume Volumes de cabine	Minimum ventilation Ventilation minimale
7,5 kW	3,7 - 5,3 qm x 1,90 m 39,8 - 57 sq ft x 6,2 ft	35 x 5 cm 1,2 x 0,2 ft
9,0 kW	4,7 - 7,4 qm x 1,90 m 50,6 - 79,7 sq ft x 6,2 ft	35 x 6 cm 1,2 x 0,2 ft
10,5 kW	5,8 - 7,9 qm x 1,90 m 62,4 - 85 sq ft x 6,2 ft	35 x 6 cm 1,2 x 0,2 ft
12,0 kW	7,4 - 9,5 qm x 1,90 m 79,7 - 102,3 sq ft x 6,2 ft	35 x 7 mm 1,2 x 0,2 ft

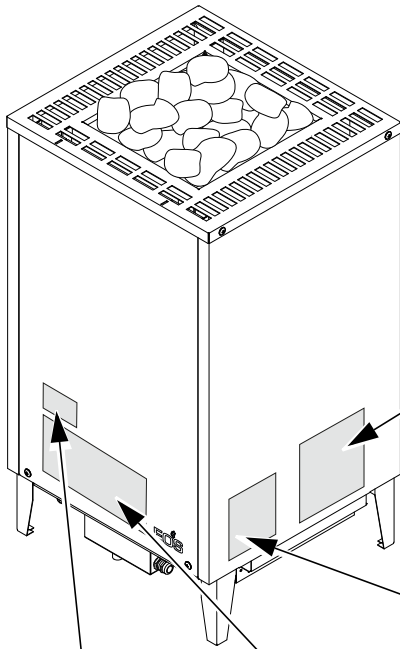
Location of control unit in a dry area /  
Emplacement de l'unité de commande dans une zone sèche  
**Emotec USA/CAN D/H**

Print no. 2934 5298 / 14.22



Example: EOS Cubo

# Heater – front and right side



**⚠ WARNING!**  

DO NOT PLACE ANY OBJECTS ON HEATER. COVERING CAUSES FIRE RISK.  
AN INADEQUATELY FILLED ROCK STORE CAUSES FIRE RISK.  
DO NOT OPERATE WITHOUT ROCKS.

**⚠ AVERTISSEMENT!**



NE PAS PLACER DES OBJETS AU-DESSUS DU POÊLE. IL Y A UN RISQUE D'INCENDIE SI LE POÊLE EST RECOURVÉ.  
IL Y A UN RISQUE D'INCENDIE SI LE COMPARTIMENT DE PIERRES N'EST PAS CORRECTEMENT REMPLI.  
NE PAS CHAUFFER SANS PIERRES.

Print no. 29345269 / 02.22




**For household use only**  
**Uniquement pour usage privé**

**Sauna heater**

Type Cubo NA  
Art.-Nr. 94 xxx 00  
400 V 3Ph AC 60 Hz 9 kW

 **IPX4** 

Made in Germany S-No. 30.22 00002  
EOS SAUNATECHNIK GmbH, Schneiderstriesch 1, 35759 Driedorf

 CONFORMS TO IEC 60335-1  
 CERTIFIED TO CAN/CSA STD E60335-1/IEE E60335-2-53  
 Intertek 5023683

**⚠ WARNING**

**REDUCE THE RISK OF ELECTROCUTION**

Disconnect All Supply Connections Before Servicing.  
This Appliance Has 1 Supply Connection.

294602\_78.1\_200407

**⚠ WARNING**

**REDUCE THE RISK OF ELECTROCUTION AND BURNS**

Do Not Operate Unless Guard Is In Place.

294602\_78.1\_200407

**⚠ AVERTISSEMENT**

**RÉDUIRE LE RISQUE D'ÉLECTROCUTION**

Débranchez toutes les connexions d'alimentation avant de procéder à l'entretien.  
Cet appareil a 1 connexion d'alimentation.

294602\_78.1\_200407

**⚠ AVERTISSEMENT**

**RÉDUIRE LE RISQUE DE ÉLECTROCUTION ET BRÛLURES**

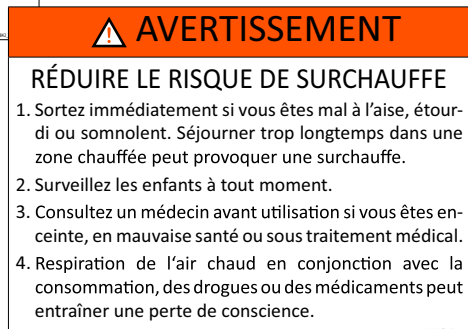
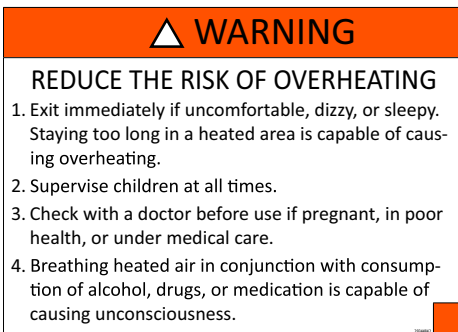
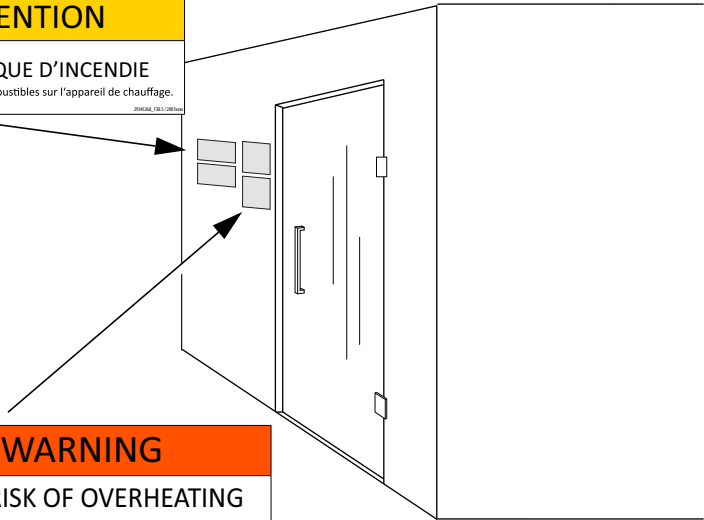
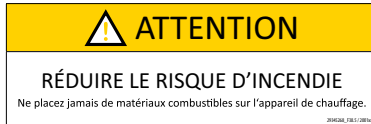
Ne pas utiliser l'appareil si la protection n'est pas en place.

294602\_78.1\_200407

 Example: EOS Cubo

## Cabin

The warnings for sauna users must be affixed outside the cabin so they are clearly visible at eye level.



## 1.4 Safety levels

Safety instructions and important operating instructions are classified according to ANSI Z535.6. Please familiarize 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.

---

## 1.5 Standards and regulations

For an overview of the standards that were observed during design and construction of the sauna heaters, please refer to the individual product's technical data sheet that can be downloaded from [www.eos-sauna.com](http://www.eos-sauna.com). Local regulations also apply to the installation and operation of heating, sauna, and steam room systems.

## 2 Identification

The EOS Cubo/Cubo Avantgarde is an electrically heated sauna heater for use in Finnish mode, available in a variety of output capacities.

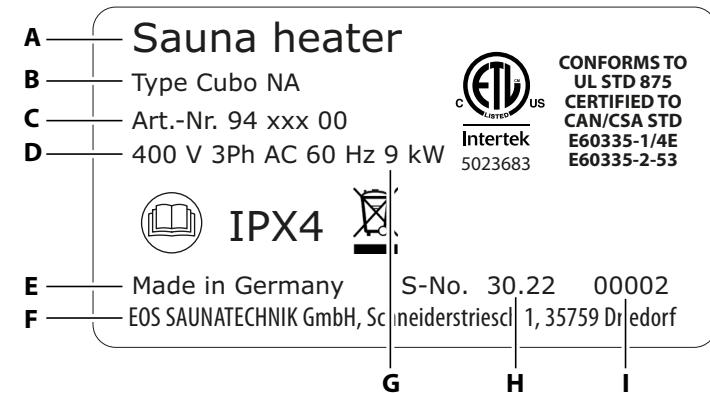
### 2.1 Requirements for operation


The heater is operated using the following control unit:

- EOS EmoTec D/H USA/CAN

The control unit is not included in the scope of delivery.

### 2.2 Nameplate

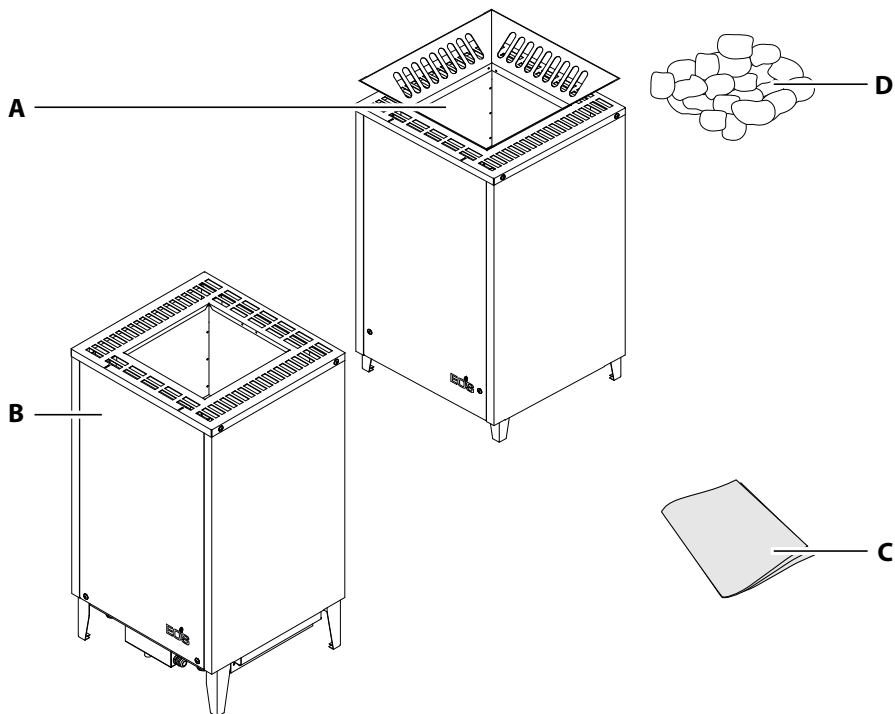


- |   |                             |
|---|-----------------------------|
| <b>A</b> Name   | <b>F</b> Manufacturer       |
| <b>B</b> Model  | <b>G</b> Heater power       |
| <b>C</b> Item number  | <b>H</b> Manufacturing date |
| <b>D</b> Electrical connection  | <b>I</b> Serial number      |
| <b>E</b> Country of origin  |                             |
|  Nameplate (example) |                             |

## 2.3 Scope of delivery

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

The following parts are included in the scope of delivery:




**A** Cubo Avantgarde sauna heater with rock store frame

**C** Installation instructions

**B** Cubo sauna heater

**D** Quartz stones for the Cubo Avantgarde, ca. 10 kg / ~22 lbs

 Scope of delivery



## Accessories (optional)

Accessories (optional)	Item number
Heater guard rail (to protect unit from being touched)*, complete	94.6970
Heater guard rail, without wooden parts	94.6972
Stones – caliber 50–100 mm/2–4 in. ca. 20 kg / ~44 lbs	94.7336
White quartz stones for the Cubo Avantgarde, ca. 10 kg / ~22 lbs	94.6878
Temperature limiter 160°C/320°F Use only original replacement parts.	Model: see component mounted in the device

\* It is essential that the unit is protected from being touched.

## 2.4 Technical data

### Electrical connection data

Heater power	Connection voltage	Connecting cable	Fuse
7.5 kW	208 V	12 AWG	30 A
7.5 kW	240 V	12 AWG	15 A
9.0 kW	208 V	12 AWG	35 A
9.0 kW	240 V	12 AWG	20 A
10.5 kW	208 V	12 AWG	20 A
12 kW	208 V	12 AWG	25 A

Only use copper lines that are approved for temperatures of min. 180°C/ 356°F. When using 4 to 6-core cables, the type of AWG cable specified in the table increases by one unit.

Example: AWG 12 > AWG 10.

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

The following fuses are permitted:

- Class G, H, J, K
- Type S plug-in fuse
- Edison base

## Heater

Heater power	Unit dimensions HxWxD	Weight without stones	Stone requirement
7.5 kW	72 x 40 x 38.5 cm 2.4 x 1.3 x 1.3 ft	<b>Cubo:</b> 20.5 kg/45.2 lbs. <b>Cubo Avantgarde</b> 28 kg/62 lbs.	<b>Cubo:</b> 27.5 kg/60.6 lbs. <b>Cubo Avantgarde</b> 25 kg + 10 kg 55 lbs. + 22 lbs.
9.0 kW			
10.5 kW			
12.0 kW			

## Cabin

Heater power	Cabin volume	Minimum size – ventilation
7.5 kW	3.7–5.3 sq. m x 1.90 m 39.8–57 sq. ft x 6.2 ft	35 x 5 cm 13.8 x 2"
9.0 kW	4.7–7.4 sq. m x 1.90 m 50.6–79.7 sq. ft x 6.2 ft	35 x 6 cm 13.8 x 2.4"
10.5 kW	5.8–7.9 sq. m x 1.90 m 62.4–85 sq. ft x 6.2 ft	
12.0 kW	7.4–9.5 sq. m x 1.90 m 79.7–102.3 sq. ft x 6.2 ft	35 x 7 cm 13.8 x 2.4"

## 2.5 Intended use

This heater is intended solely for the purpose of heating sauna cabins, together with a suitable control unit.

The sauna heater is suitable for commercial and private use.



Neither heater model is suitable for outdoor use. They should be operated inside buildings only. They must 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.

The manufacturer is not responsible for unauthorized modifications and damages resulting from these modifications; the person modifying the equipment alone shall bear the associated risk.

### Foreseeable misuse

The following are considered instances of foreseeable misuse:

- The device does not contain a time-controlled circuit breaker. The control unit, which ensures an all-pole disconnection of the device, must control the heating period limitation according to the standard specification. It must not be possible to override this time limit.
- No heater guard rail is installed in the cabin.  
See 3.2 Heater guard rail,  EN-26.
- The sauna volume does not match the heater power.
- 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 by children or persons with reduced mental capacity or by persons who have not been thoroughly instructed in its use.

## 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 planned with regard to each other.
- 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 your sauna.  
All temperatures that can be set via the control unit are tested according to UL875 or CSA C22.2#60335-1:2016Ed.2 and CAN/CSA E60335-2-53\*AEI.  
Note that there is a drop in temperature from the ceiling to the floor of the sauna cabin. Temperatures are measured and regulated based on the ceiling values. Thermometers placed below the ceiling will therefore display lower temperatures. When the max. temperature is set for the area around the upper sauna bench, the bathing temperature is typically between 80 °C/176 °F and 90 °C/194 °F.
- The first time the cabin is heated, you may notice a slight odor 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

Prior to installation, air inlets and outlets must be installed in the cabin. All protective films must be removed.

The supplied protective grill must be mounted above the heater. This prevents objects from falling onto the heater.

### 3.1 Specifications for the cabin

The cabin must be planned and installed according to specifications before the heater is installed.

The floor on which the heater stands must be level.

In general, it should be noted that the sauna heater must not be set on a floor made of highly flammable material (laminated, synthetic flooring, etc.).

Ceramic tiles are recommended as a flooring option.

### Electrical lines

All electrical installations laid inside the cabin must be suitable for silicone cables and a temperature of at least 170°C/338°F. 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.

#### 3.1.1 Installation site

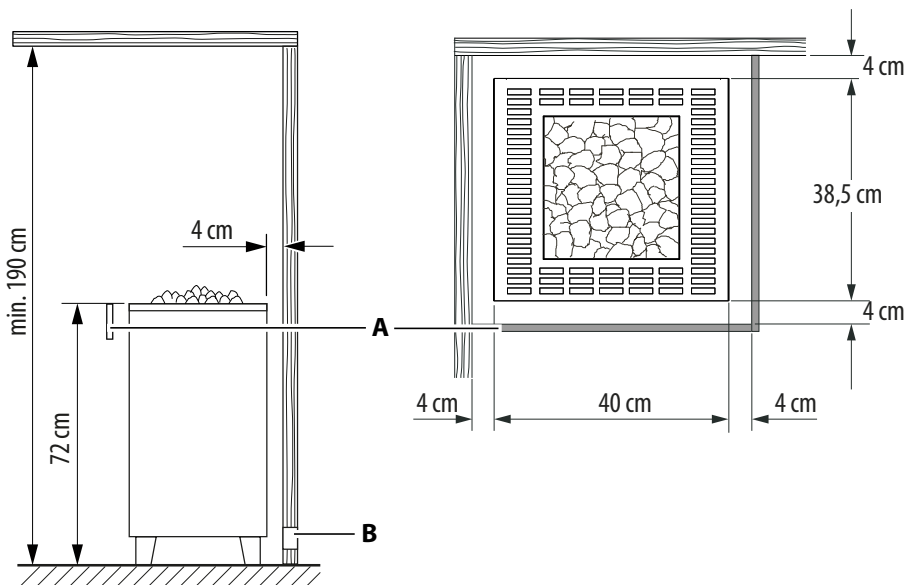
The required cabin volume depends on the heater power. See 2.4 Technical data, [EN-17](#).

The clearance distances between the heater and flammable material (wood wall, sauna bench, etc.) must be observed as shown below.

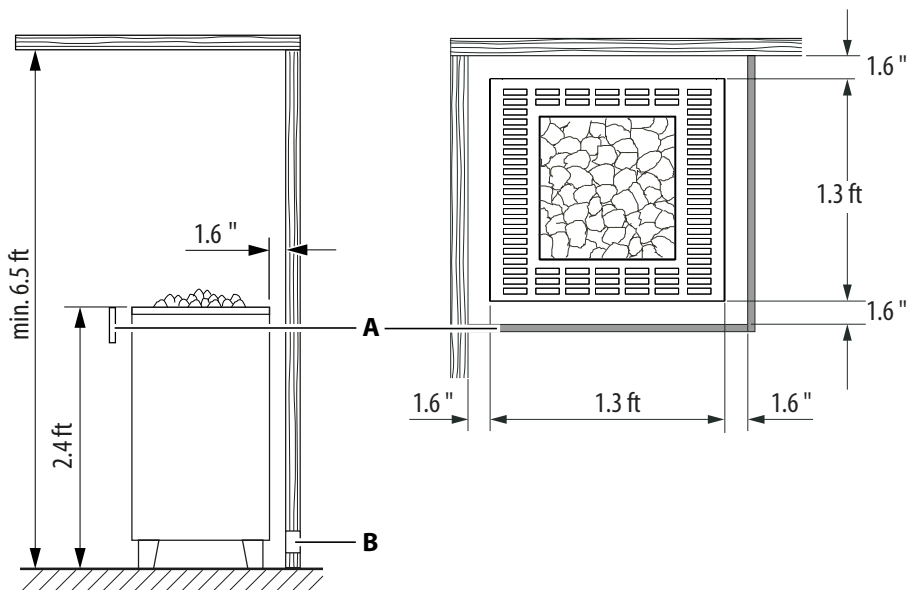
- Dimensions and clearances for Cubo, [EN-22](#)
- Dimensions and clearances for Cubo Avantgarde, [EN-23](#)

# Dimensions and clearances for Cubo

## Dimensions in cm



## Dimensions in ft/in.



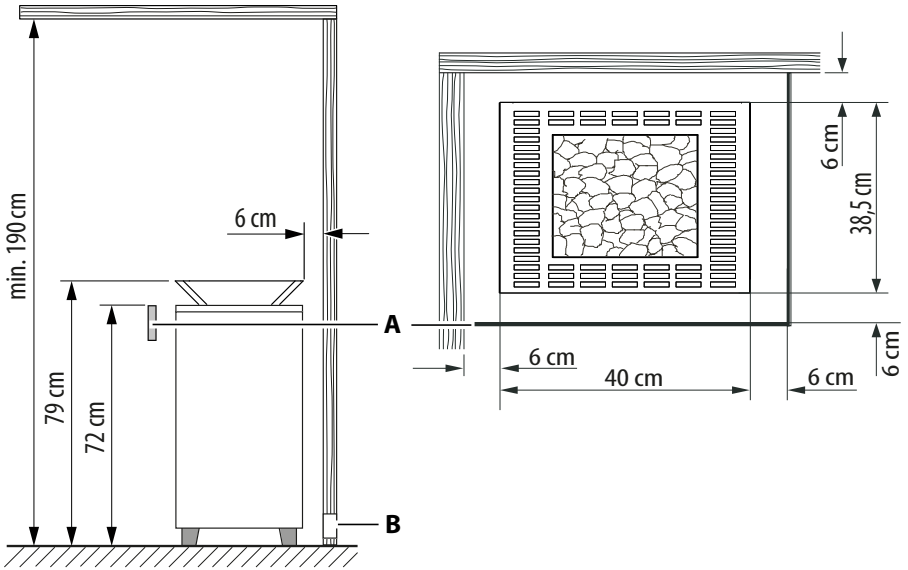
**A** Heater guard rail

**B** Air inlet

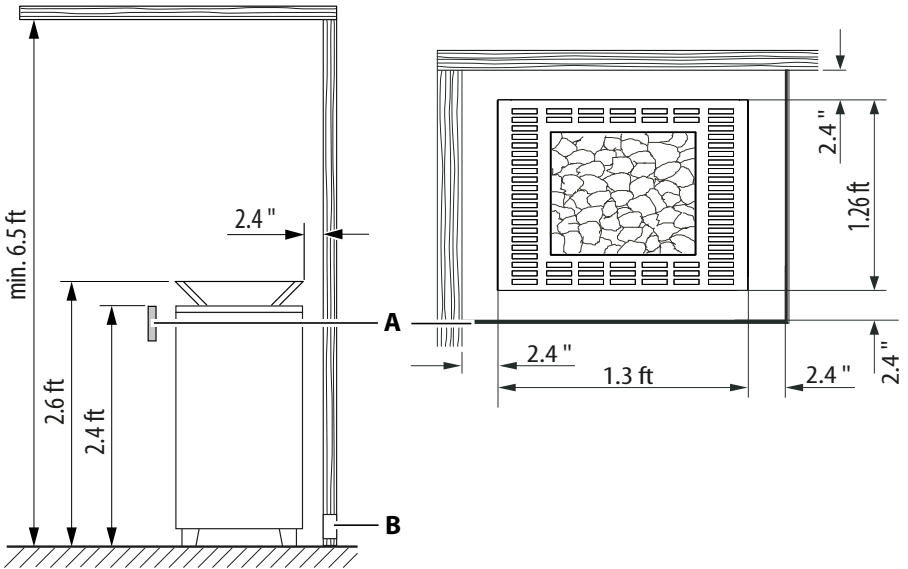
▣ Cubo

# Dimensions and clearances for Cubo Avantgarde

## Dimensions in cm



## Dimensions in ft/in.



**A** Heater guard rail

**B** Air inlet

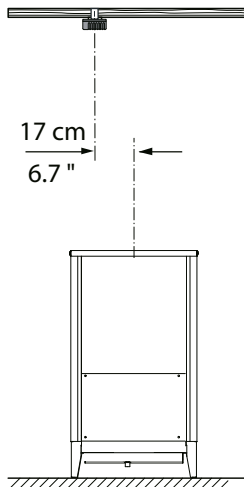
 Cubo Avantgarde

### 3.1.2 Temperature sensor

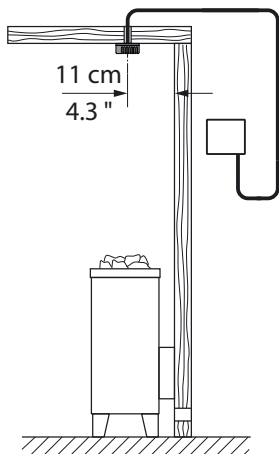
It is essential that the temperature sensor with the safety temperature limiter (STB) is installed.

This temperature sensor must be installed where expected temperatures are the highest, meaning above the heater.

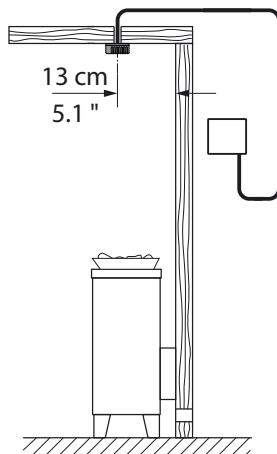
#### Front view



#### Side view



**EOS Cubo**



**EOS Cubo Avantgarde**


The temperature sensor with the safety temperature limiter is not included in the scope of delivery. For installation information, see the installation instructions for EmoTec D/H USA/CAN.

Connect the sensor as shown in the circuit diagram for the respective control unit.



### 3.1.3 Air inlets and outlets

At least one air inlet must be installed in the cabin to ensure a sufficient air flow in the cabin and to prevent the heater from overheating.

The required size of the air inlet depends on the heater power; see 2.4 Technical data,  EN-17.

#### **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.

If the heat-up process takes a long time, the underlying reason can be that the heater has an insufficient fresh air supply. The sauna cabin air exchange rate must be at least 5 times per hour.

If, despite compliance with dimensions, there is still not enough fresh air to reach the heater, a fan must be installed at the opening outside of the cabin.

### 3.1.4 Connecting cable

The heater is connected to the sauna control unit via a connecting cable. This temperature-resistant silicone cable is very pressure sensitive and must be protected from damage during installation. To do this, route a cable duct or empty pipes from the heater's installation site to the relay box. The radius for laying the cables around a corner must equal a minimum of 100 mm/3.93701 in.

See the connection diagrams in 4.2 Connections,  EN-32.

## 3.2 Heater guard rail

### CAUTION

#### **Risk of burns if heater is touched**




The outer casing of the heater may become hot and, if touched, could cause burns.

- ▶ A heater guard rail must be installed.
- 

You can obtain a suitable heater guard rail from the manufacturer of the sauna heater.

## 3.3 Installing the heater

Once the cabin is prepared, the heater is placed on a pre-defined position. Two people should always carry the heater.

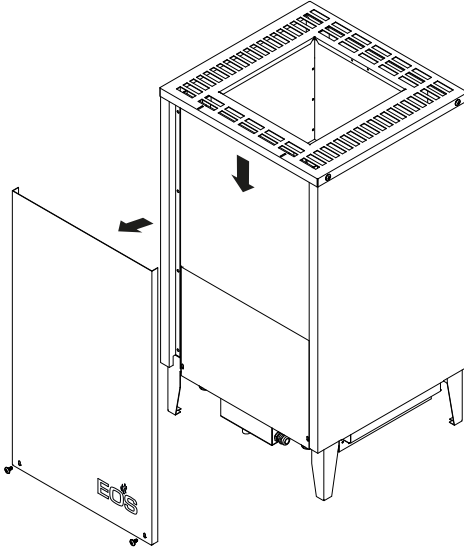
- ▶ Connecting the connecting cable to the heater,  EN-26
- ▶ Connecting the heater safety temperature limiter,  EN-28
- ▶ Setting up the heater,  EN-29

### 3.3.1 Installing the connecting cable

The terminal box with the connection terminals for the heating elements is located at the front of the heater.

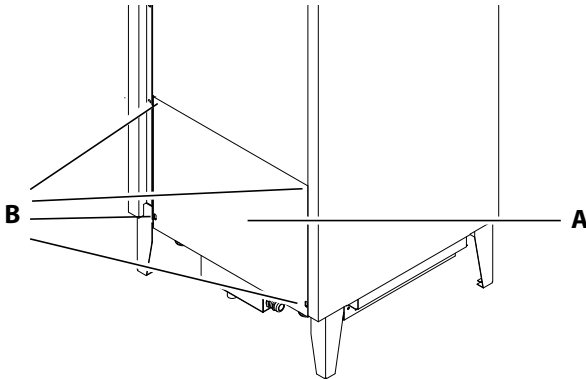
#### ▶ **Connecting the connecting cable to the heater**

- 1 CAUTION! The heater weighs a min. of 20 kg/44 lbs. Two people should always move the heater.  
Unpack the heater and remove all transport locks.
- 2 Place the heater in the cabin.

**3** Remove the design cover.

**a)** Loosen the 2 screws at the bottom edge of the design cover.

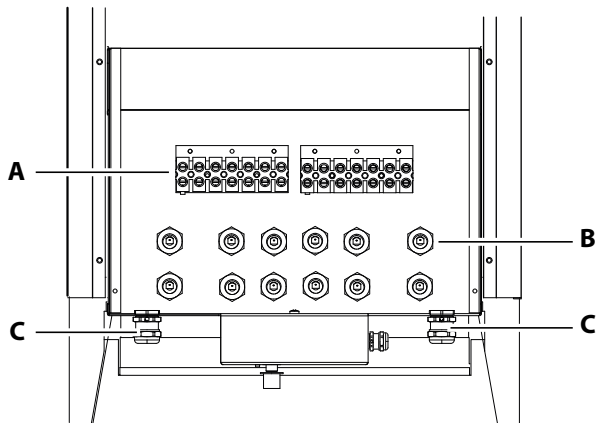
**b)** Slide the design cover down slightly and remove it.

**4** Unscrew the screws (**B**) on the terminal box and remove the cover (**A**).

**A** Terminal box cover

**B** Screws

- 5 Pull the cable through the cable feed opening (C) from below.



- A** Connection terminals                      **B** Tubular heating element  
**C** Cable feed opening

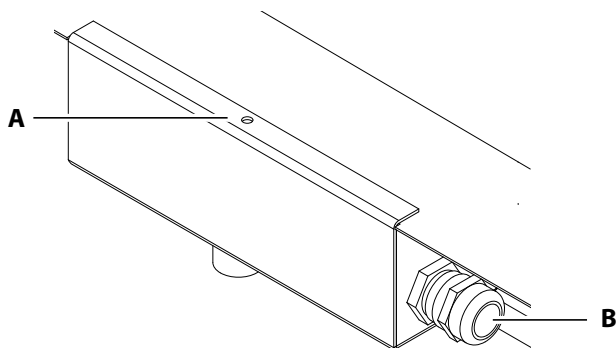
- 6 Connect the cable to the connection terminals (A) in accordance with the circuit diagram.

ⓘ Observe the circuit diagram in the terminal box:

- 7 Tighten all terminals properly.

### ► Connecting the heater safety temperature limiter

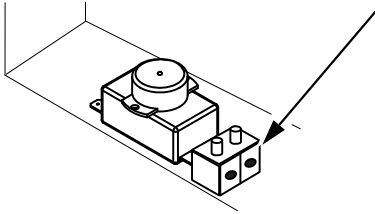
- 1 Secure the connecting cable for the heater safety temperature limiter within sheathing such as a flexible cable conduit.



- A** Screws on the cover of the safety temperature limiter    **B** Cable feed opening


ⓘ The sheath must extend from the cabin wall to the heater.

- 2 Pull the connecting cable with the sheath through the cable feed opening.
- 3 Attach the 2-core line for the safety temperature limiter to both terminals.



- 4 Screw in the feed opening.
- 5 Fix the cover of the safety temperature limiter in place again and tighten the screws.
  - ⓘ On the control unit, this safety temperature limiter (on the heater) must be switched on in sequence with the safety temperature limiter on the cabin ceiling. For more information, see the installation instructions for the control unit.
- 6 Fix the terminal box cover in place again and fix with 2 screws.
- 7 Reattach the design cover and screw it in place.

### ► Setting up the heater

- 1 Move the heater to the desired position.
- 2 Attach the heater guard rail.
  - ⓘ The heater guard rail (touch guard) is mandatory. For installation information, see 3.1.1 Installation site,  EN-21
- 3 Guide the cable from the cabin to the sauna control unit.
  - ⓘ Leave sufficient cable inside the sauna to allow the heater to be moved away from the wall for maintenance.
- 4 Connect all cables to the control unit in accordance with its installation instructions.

### 3.4 Adding stones

The heater is intended for use with natural stones. Use only natural sauna stones of the prescribed caliber of approx. 50–100 mm. Place layers of natural stones in small piles around the rock store.

In addition to normal sauna stones, the Cubo Avantgarde also comes with a frame that can be filled with approx. 10 kg/22 lbs. quartz stones. The rounded quartz stones look beautifully elegant.

#### ⚠ WARNING

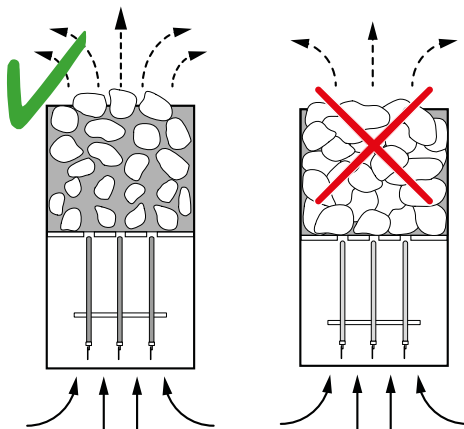
#### Fire hazard from overheating

Operating the heater without stones could cause fire or damage to the heater. Stones that 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.
- ▶ Stack the stones loosely.

#### ▶ Filling the rock store

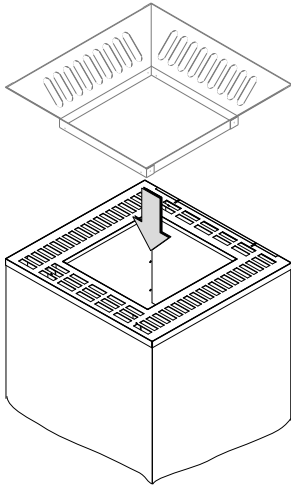
- 1 Wash the sauna stones under running water.
- 2 **WARNING!** Stones that are stacked too closely prevent the hot air from circulating, thus causing the unit to overheat. A risk of fire ensues. Distribute the stones loosely between the heating elements.




ⓘ Do not place the stones on the edge. The air must flow freely.

### ► Fitting the rock store frame (Cubo Avantgarde only)




- 1 Firmly press the lower straight sides of the rock store frame into the rock store.



- 2 Fill with sauna stones to the lower edge of the rock store frame. See ► Filling the rock store,  EN-30.
- 3 Place rounded quartz stones in the rock store frame.

## 3.5 Warning signs on the cabin

### ► Attaching warning signs

- 1 Attach warning signs to the outside of the cabin so that they are clearly visible at eye level.  
 See  Cabin,  EN-13

## 4 Connections

### 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.

If a residual current device (RCD) is installed, ensure that there are no units 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.

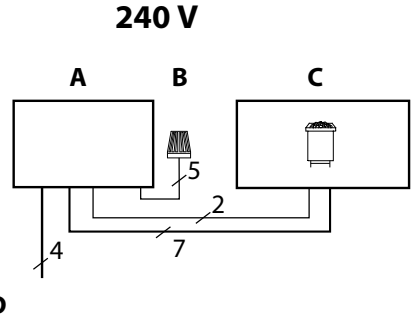
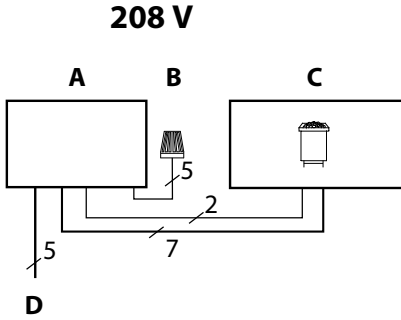
The electrician is responsible for properly connecting the heaters; thus, the manufacturer does not assume liability.


### 4.2 Connections

The sauna control unit and the heater must be connected as shown in the circuit diagrams. Please observe the installation and operating instructions for the control unit and the sticker on connecting in the heater. See also 2.4 Technische Daten, □ DE-19.



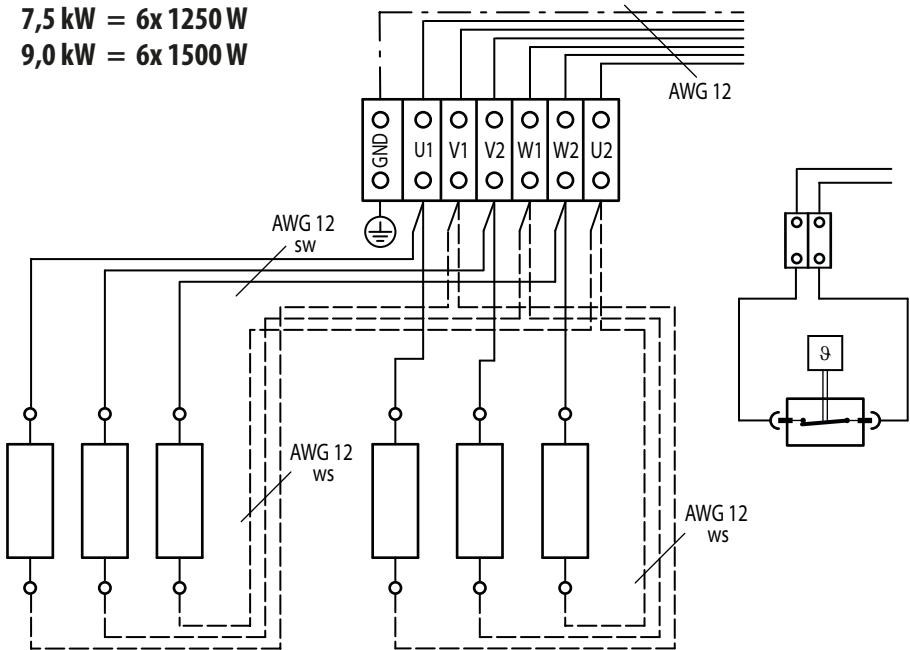
6–9 kW



- A** Control unit
- B** Safety temperature limiter
-  Connection diagram

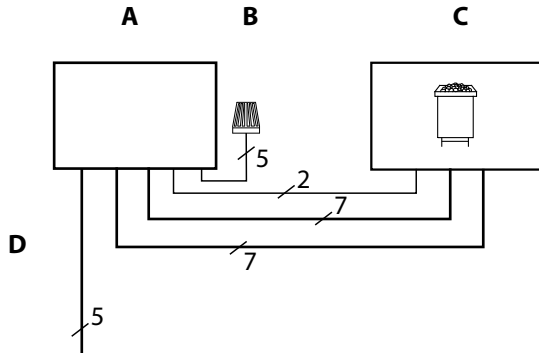
- C** Heater
- D** Mains connection for control unit

7,5 kW = 6x 1250 W  
9,0 kW = 6x 1500 W



 Internal wiring: 6–9 kW

### 10.5–12 kW

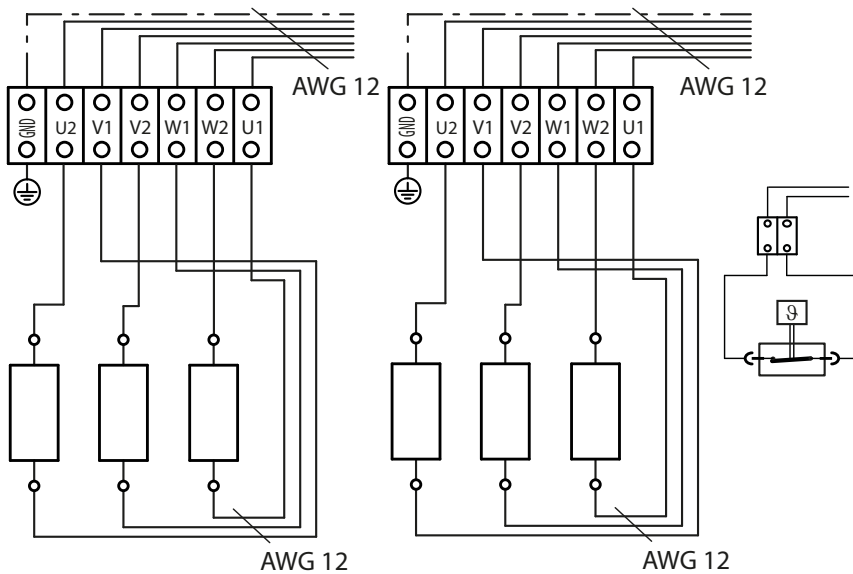


- A** Control unit
- B** Safety temperature limiter
- C** Heater
- D** Mains connection for control unit

☒ Connection diagram


**10,5 kW = 3x 1500 W  
3x 2000 W**

**12,0 kW = 6x 2000 W**



☒ Internal wiring: 10.5–12 kW

### 4.3 Establishing an electrical connection

The description below assumes all connection works on the heater have been completed (3.3.1 Installing the connecting cable,  EN-26).

#### ► Connecting the connecting cable to the control unit

- 1 Guide the cable from the cabin to the sauna relay box.
  - ① To allow the heater to be moved for servicing, do not pull the connecting cable completely out of the cabin.
- 2 CAUTION! Ensure that the control unit has no power.  
Connect the connecting cable as shown in the installation instructions for the control unit.

### 4.4 Heating period limitation

The control unit ensures that the heating period limitation is observed. Refer to the installation and operating instructions of the control unit.

## 5 Commissioning

The heater is switched on via the control unit. It is operated via the control panel.

### **WARNING**



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


Objects placed on the heater or protective grill could catch fire.

- ▶ Inspect the cabin prior to each use and ensure that no objects are placed on the heater.

### **WARNING**

#### **Risk of fire due to heating without stones**

If the heater is operated without stones, there is a risk of flammable parts becoming overheated. There is a risk of death due to fire.

- ▶ Start the heater only if it has been filled with stones. See
  - ▶ Filling the rock store,  EN-30.

### 5.1 Starting the heater

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

#### ▶ **Switching the system on**

- 1 Switch the sauna control unit on.
  - ① The heater is switched on via the control unit.
- 2 Use the control unit to select a suitable program.

## 5.2 Water splash

Before the first water splash can be carried out, the cabin must be sufficiently heated. The temperature in the cabin is controlled from the control unit via the temperature sensor. 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 the water slowly and evenly over the stones. 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/ 0.4 cups of water per m<sup>3</sup> cabin volume should be vaporized. After each water splash, wait approx. 10 minutes before starting the next one. This time is needed for the sauna stones to reheat.

## 6 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 and/or descale 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 or vaporizer.

### 6.1 Cleaning

The 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.

---

Clean the heater only with household cleaners.

## 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 and small particles can break free 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 at least once per year and replace any defective stones.

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 **CAUTION!** The rock store frame (Cubo Avantgarde) and stones can be hot. Allow the heater to cool sufficiently before you start to replace the stones.  
Remove each stone individually.
- 2 Check each stone for damage.
  - ⓘ Remove the stone if damaged and replace it with a new one.
- 3 Rinse all stones with cold water.
- 4 Place the stones loosely so that there is enough space between them for air to circulate sufficiently.
  - ⓘ The stones must not exert excessive pressure on the heating elements.
- 5 Cubo Avantgarde only: Attach the rock store frame and insert the quartz stones
  - ⓘ ► Fitting the rock store frame (Cubo Avantgarde only), [EN-31](#)

### 6.3 Replacing the heating elements

Individual heating elements can be replaced. To remove the heating elements, the terminal box must be accessible. Furthermore, the cover and the stones must be removed.

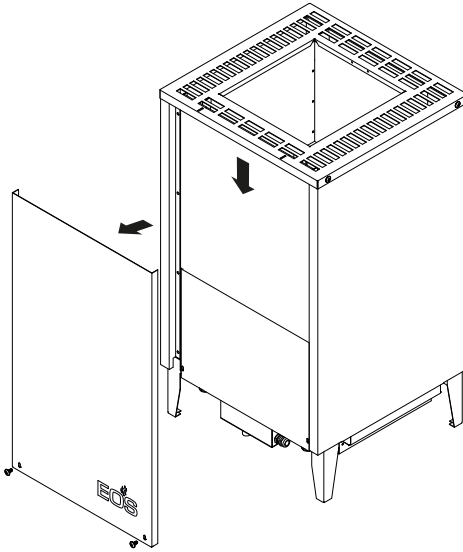
Hardware and tools:

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

#### ► Preparing the heater

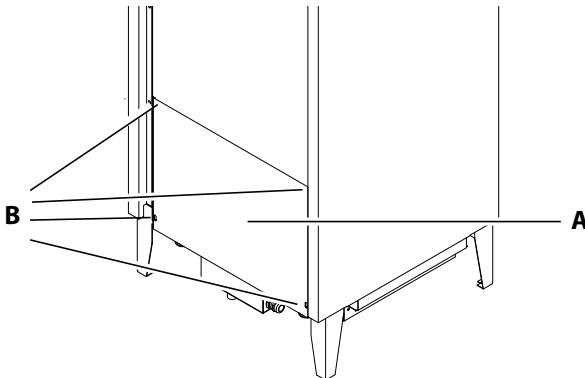
- 1 **WARNING!** Electric shock may occur if the heating coil is serviced while the heater is connected to the power supply.  
Ensure that the heater has been disconnected from all power supply lines.
  - a) Switch off the heater.
  - b) Switch off the fuses to disconnect the heater from the mains supply.
- 2 Remove the heater guard rail.
- 3 **CAUTION!** Allow the heater to cool sufficiently before starting work.  
Remove the stones.



**4** Remove the design cover.

**a)** Loosen the 2 screws at the bottom edge of the design cover.

**b)** Slide the design cover down slightly and remove it.

**5** Unscrew the screws (**B**) on the terminal box and remove the cover (**A**).

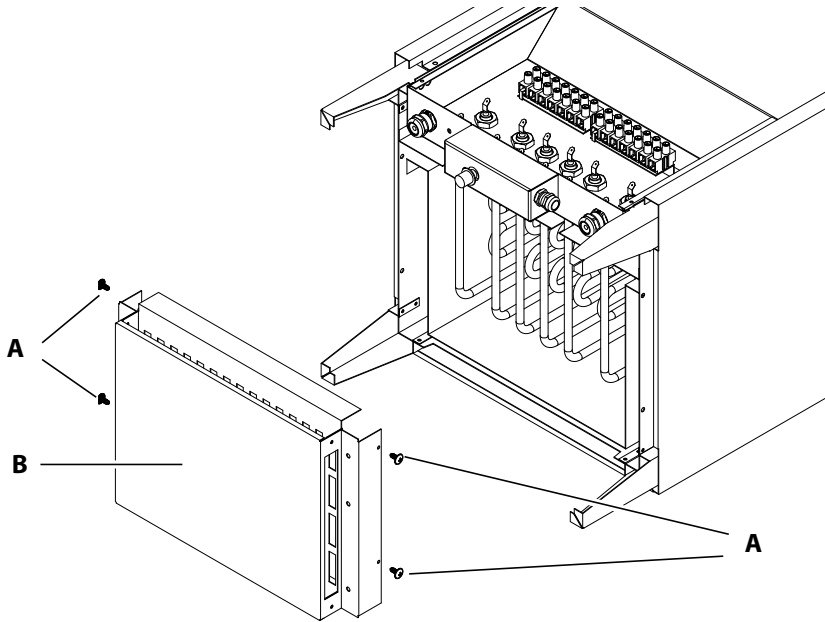
**A** Terminal box cover

**B** Screws

**6** Pull the heater forward and carefully place it on its back.

ⓘ You can place foil or a cloth underneath the heater to protect it.

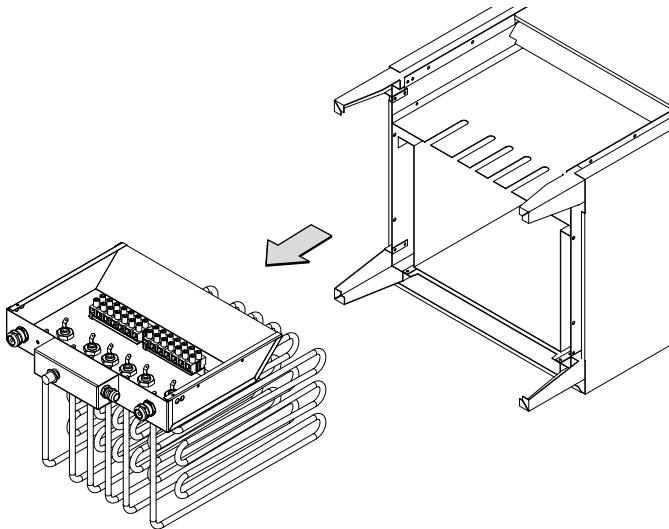
- 7 Loosen the 4 self-tapping screws (A) on the base (B) and remove it.



**A** Self-tapping screws

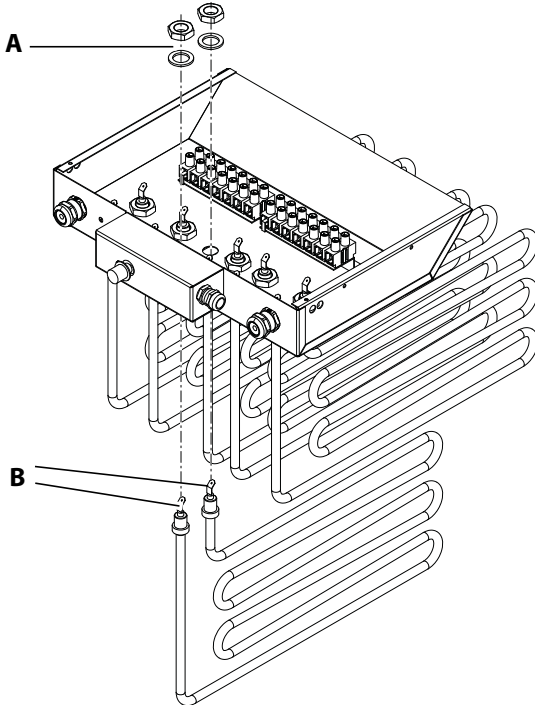
**B** Base

- 8 Pull out the heating coil.



## ► Replacing the heating element

- 1 Identify the defective heating element by taking measurements.
- 2 Remove both flat plugs for the defective heating element from the flat pins (**B**).



**A** Nuts (M14) and lock washers

**B** Flat pins for flat plugs

- 3 Loosen both nuts (**A**) and lock washers on the defective heating element.
- 4 Push the heating element down gently and remove it.
- 5 Insert the new heating element.
- 6 Secure the heating element with the lock washers and nuts.
- 7 Plug in the flat plug.
  - ⓘ Check the wiring on all heating elements before reassembling the heater and standing it up.

**► Reassembling the heater**

- 1** Push the heating coil back into the heater.
- 2** Reattach the base and tighten the 4 self-tapping screws.
- 3** Attach the terminal box cover and secure with 4 screws.
- 4** Place the heater upright and push it back into its previous position.
- 5** Reattach the design cover and screw it in place.
- 6** Reattach the heater guard rail.
- 7** Insert the stones together with the rock store frame and quartz stones if applicable.
  - ⓘ** Check the stones as you work and replace any damaged ones.
- 8** Switch on the fuses for the heater to connect it to the mains supply.

## 6.4 Resetting the safety temperature limiter

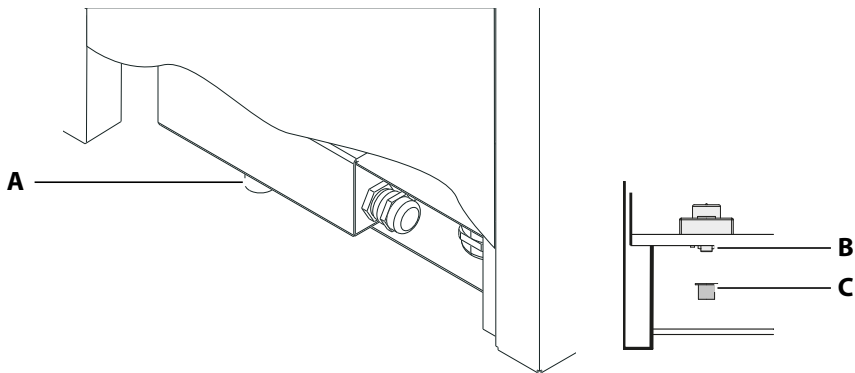
The heater has a dedicated safety temperature limiter to prevent the heater from overheating.

It only monitors the temperature of the heater. The safety temperature limiter in the temperature sensor monitors if the cabin has overheated.

### ► Resetting the safety temperature limiter

**1 CAUTION!** Allow the heater to cool sufficiently before starting work. Use a screwdriver or a coin to unscrew the protective cap (C).

- ① The safety temperature limiter is located below the terminal box and is accessible from the outside.



**A** Safety temperature limiter

**B** Reset pin

**C** Protective cap

**2** Press in the pin (B) of the safety temperature limiter until it audibly engages.

- ① If the pin does not click into place, the heater has not cooled down fully.

**3** Re-install the black cap and tighten it.

**4** Use the control unit to switch on the heater.

## 6.5 Troubleshooting

Error	Reason	Solution
It takes the heater a long time to heat up the cabin.	One or more than one heating element is defective.	Have a technician replace the tubular heating element.
	There is not enough space between the stones.	Reshuffle the stones. See ► Reshuffling the sauna stones, <a href="#">EN-39</a>
	There is insufficient ventilation.	Install the air inlets. If these are insufficient, add a fan to the openings. See 3.1.3 Air inlets and outlets, <a href="#">EN-25</a>
	The electrical connection is defective.	Check the installation fuses. Have the control unit's outputs checked by a technician.
	The position of the temperature sensor is not optimal.	Check the position of the temperature sensor and adjust as needed. See 3.1.2 Temperature sensor, <a href="#">EN-24</a>
The heater is very hot but cannot distribute the heat throughout the cabin.	There is not enough space between the stones.	Reshuffle the stones. See ► Reshuffling the sauna stones, <a href="#">EN-39</a>

Error	Reason	Solution
The safety temperature limiter was triggered and the heater no longer heats.	The safety temperature limiter was triggered by heat accumulation.	Check the inlets, outlets, and the fan and ensure that the heater has access to a sufficient amount of air. Reset the safety temperature limiter. See ▶ Resetting the safety temperature limiter, <a href="#">EN-45</a>
	The position of the temperature sensor in the cabin is not optimal.	Check the position of the temperature sensor and adjust as needed. See 3.1.2 Temperature sensor, <a href="#">EN-24</a> .

## **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 recognize 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 postal service. 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 unauthorized 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.

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

Observe the national and local regulations for the disposal of recyclable materials.

### Packaging

The unit's packaging 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 should be disposed of at a designated local collection point for electronic waste.



## **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:**