

# **EOS SteamRock II Basic**

steam generator



**EN** Installation and operation manual

**Made in Germany** C € EHI



# English

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#### Introduction

Dear customer

Thank you very much for purchasing EOS sauna & steam equipment. You have purchased a modern, technically advanced product which will provide you with years of reliable operation.

EOS steam generators have been designed and tested to comply or exceed the currently applicable European safety norms and are produced in our factory in accordance with the quality management norms DIN EN ISO 9001:2015.

This installation manual or operating guide is intended for your information. Please read it carefully before installing and operating the steam generator, in order to prevent damages of the device or physical injuries. Please keep this document for further references.

We wish you a pleasant and relaxing time in your steam room.

Your FOS team.

#### 1. Identification

#### 1.1 Manufacturer

EOS Saunatechnik GmbH

Schneiderstriesch 1

D-35759 Driedorf

Tel.: +49 2775 82-0 Fax: +49 2775 82-431

#### 1.2 Copyright

The copyright owner of the present installation manual and operating guide is EOS Saunatechnik GmbH.

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#### 1.3 Identification about the unit

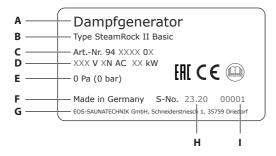
Product name

SteamRock II Basic

#### 1.4 Information about the unit

#### **Nameplate**

The nameplate is attached to the underside of the base of the housing.



- A Product description
- **B** Model name
- **C** Product code (item no.)
- **D** Supply voltage (model dependent)
- **E** Operating pressure Pascal (bar)
- F Country of origin
- **G** Manufacturer
- **H** Production date
- I Serial number

#### 1.5 Intended use

The SteamRock II Basic steam generator is intended for production of steam in steam rooms or sauna rooms with humid operation. The SteamRock II Basic requires an external control unit (e.g. EOS Econ S2) which is not included in the scope of delivery. Third party control units may not be used without prior written consent of EOS Saunatechnik GmbH.

#### 1.4 Foreseeable incorrect use

Following may be regarded as foreseeable incorrect use:

- Steam room size does not match the steam generator power (incorrect power selection).
- · Incorrect connection of the steam generator and control unit.
- Operation without proper knowledge of the safety instructions (chapter 3).
- Operation without adherence to the required operation rules, maintenance and servicing requirements.
- Operation of the device after unauthorized technical alterations or repairs.
- The unit is operated by children or persons with reduced mental capacity or by persons who have not been thoroughly instructed in its use.
- Operation or use by persons with certain ailments or health conditions, such as for instance heart and cardiovascular disorders, which might lead to physical injuries through the use of a sauna or a steam room (a doctor should be consulted in advance).

### 2. General safety instructions

### Safety levels

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

### **A** DANGER

### **Danger**

Indicates a hazardous situation which, if not avoided, will result in death.

### **↑** 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.

# General safety instruction - Mounting and electric 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 assembly, setup and commissioning.

### **A** DANGER

# 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 also applies following completion of the installation work.

- The electrical installation of the steam generator and other electrical systems or equipment with a fixed mains connection must only be performed by a trained electrician from an authorised electrical company.
- Observe the stipulations in VDE 0100 part 701 or applicable local regulations.
- The system must be disconnected and removed entirely from the mains supply before commencing installation and repair work.

### **MARNING**

# Fire hazard from overheating

Insufficient ventilation can lead to device overheating and fire.

- Do not install the control panel and power units in enclosed cabinets or wood panelling.
- Do not install steam generators in enclosed cabinets or wood panelling.

### **WARNING**

#### Risk of burns

Touching hot pipelines can result in skin burns.

- Insulate hot device parts.
- Insulate hot pipelines; they must not remain exposed.



# General safety instruction - Mounting and electric installation

### **MARNING**

# Risk of poisoning from steam

Descaler can react with other chemicals, which can create poisonous steam.

- Place the container for descaler only under the steam generatorand secure it so it does not tip.
- Ensure that the container with descaler cannot be mistaken for the container with essence.
- When refilling a container, ensure that descaler is not poured into the container for essence.
- Never place containers with descaler close to other chemicals.
- Never place other chemicals close to the container of descaler.

### **↑** WARNING

# Risk of scalding

Contact made with hot steam or hot water can result in scalding of the skin.

- The steam pipe must always have an unobstructed exit outlet in the cabin.
- The hose for excess pressure and the drain outlet for emptying the vaporiser tank
  must be routed in such a way that there is no risk of scalding if hot water escapes
  unintentionally.
- When commissioning, take measurements to ensure that the set output does not heat the cabin to over 50°C.
- Wear safety goggles/protective clothing (gloves).

### **↑** WARNING

#### Risk of chemical burns

Descaler consists of an acidic solution, which can burn eyes and skin.

- Wear eye and skin protection when connecting the descaler line and refilling descaler.
- Clean contaminated clothing thoroughly.

# General safety instruction - Mounting and electric installation

### **NOTICE**

# Damage to the unit due to high levels of lime

Lime deposits clog the vaporiser tank, slowing down the transfer of heat to the water. This can lead to malfunctions because of overheating and blockages in the drain. A water softening system does not replace regular descaling.

Non-compliance with these guidelines resulting in damage to the unit renders the warranty void.

- Check the hardness of the water before installing the unit.
- In locations where the water is high in calcium carbonate (above 5° dH), a water softening system is recommended.
- If the level on the hardness scale is 11° dH or above, connecting a water softening system to the steam generator is recommended.
- A water softening system is required if the steam generator is used commercially.

#### **NOTICE**

### Damage to the unit

Corrosive or heavy saline atmospheres damage the contacts in the control panel, in the relay box and in the sensors.

 The control panel and sensors should not be installed in a corrosive or heavy saline atmosphere.

### **General safety instruction - Operator Instruction**

The operator of the steam generator must be instructed in the general safety instructions during commissioning. The operator must be given a copy of the instructions for use.

### **▲** DANGER

### 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 also applies after work is completed.

- The housing cover must only be removed by a 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.

### **MARNING**

### Risk of burns and chemical burns

Touching hot parts may lead to skin burns and chemical burns of the skin.

- The operator must be familiar with the unit's hot parts and be able to identify them.
- The operator must be familiar with the settings for the steam supply and understand how it is controlled.

# **WARNING**

### Health risks

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

• These persons must consult with a doctor before visiting a steam room.



# **General safety instruction - Operator Instruction**

### **NOTICE**

# **Equipment damage due to overuse**

In commercial steam rooms, excessive humidity in the spatial surroundings of the steam room(s) can lead to material damage

- In a commercial steam room, the steam generator must be set so that it turns itself off after a specific period of time.
- If the steam generator does not shut itself off, usage must be supervised at all times.
- Inspect the steam room each time you start the system.

### **↑** WARNING

# Operation by children or persons with reduced mental capacity

Children and persons with reduced mental capacity can be a risk.

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

# 3. Scope of delivery

The SteamRock II Basic scope of delivery includes:

- SteamRock II Basic steam generator
- 4 screws 5 x 40 with 4 dowels F6 for installing the steam generator on the wall
- 2-part brass union 1 1/4" 35 mm for steam pipe connection
- 0,5 m connection hose for water supply 3/8" 3/4"
- 5 I container for descaler liquid with rod electrode (level sensor)
- Installation & user manual
- Pre-mounted power supply cable with CEKON type plug (16A or 32A)
- Steam outlet, 1 1/4" external thread

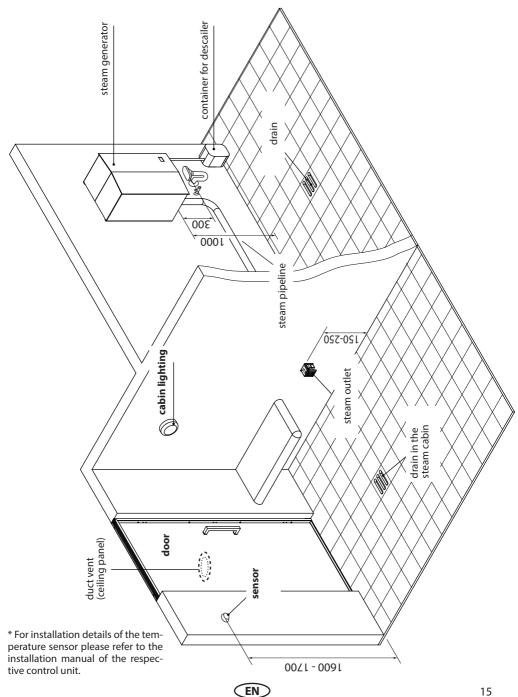
# 3. Specifications

Dimensions H x W x D [mm]	670 x 460 x 350 mm
Weight [kg]	28 kg (type 1 - 9 kW) / 30 kg (type 2 - 18 kW)
Water supply pressure [bar]	2 - 8 bar
Operation pressure max. [bar]	Pressureless type steam generator
Performance at 3 bar [steam/h]	3 kW - 4 kg/h, 6 kW - 8 kg/h, 9 kW - 12 kg/h, 12 kW - 16 kg/h, 15 kW - 20 kg/h, 18 kW - 24 kg/h
Vaporizer tank	High grade stainless steel
Internal overheating protection	Thermofuse with capillary sensor, 3-pole circuit breaker
Heating system	External heating elements, switchable in 3 kW steps
Cleaning and drain system	Integrated automatic descaling and draining system, built-in peristaltic pump, external 5 I container for cleaning liquid with level probe
Water drain	1" drain pipe at the unit's bottom side
Water level control	Automatic with overheating protection
Control system	not included (external control unit required)
Water supply	¾" external thread
Steam output	1 1/4" external thread, with 2-part brass union
Ambient temperature (operation / storage)	5°C to 45°C / 0°C to 60°C
Ambient humidity (operation)	30% bis 75%
Outputs / Connections	<ul> <li>Mains (pre-mounted mains cable)</li> <li>Connection for external control unit</li> <li>Connection for Level sensor in the descaler tank</li> <li>Connection for Level sensor in the fragrance container</li> </ul>
Power output [kW]	type 1 - 3.0 / 6.0 / 9.0 kW (9 kW default) type 2 - 9 / 12 / 15 / 18 kW (18 kW default)
Fuse protection [A]	type 1 - 3 x 16 A type 2 - 3 x 32 A
Min. cross section power supply line	type 1 - 5 x 2,5 mm <sup>2</sup> type 2 - 5 x 6,0 mm <sup>2</sup>
Power supply	400 V 3N AC, 50/60Hz, with pre-mounted mains cable with Cekon-type plug



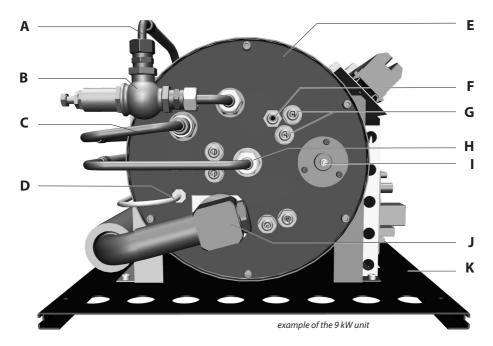
### 5. Installation

# 5.1 Installation example



### 5.2 SteamRock II Basic - position of key components

#### top view



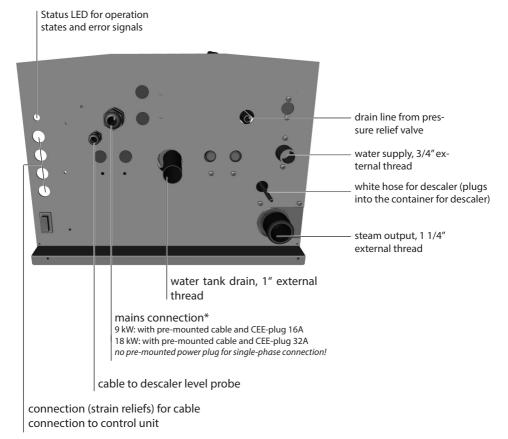
- A drain line of the pressure relief valve
- **B** pressure relief valve with drain
- **C** water supply line
- **D** descaler liquid supply hose
- E water tank lid
- **F** tube for overheating limiter fuse (STB)
- **G** mounting nuts SW 19 and connection terminals for \*heating elements
- **H** rinsing line (high pressure water jet)
- I water level probe (level sensor)
- J steam output pipe with flexible pivot joint
- **K** chassis (rear side with ventilation holes)

### **NOTICE**

\*The prime heating element (G) has a special colour-coded marking of the connection wire. This specially marked heating element (G) is located next to the overheating limiter fuse (F). After disconnection make sure, that this heating element (G) is connected to the same colour-coded wire. Incorrect connection may lead to damages to the unit.



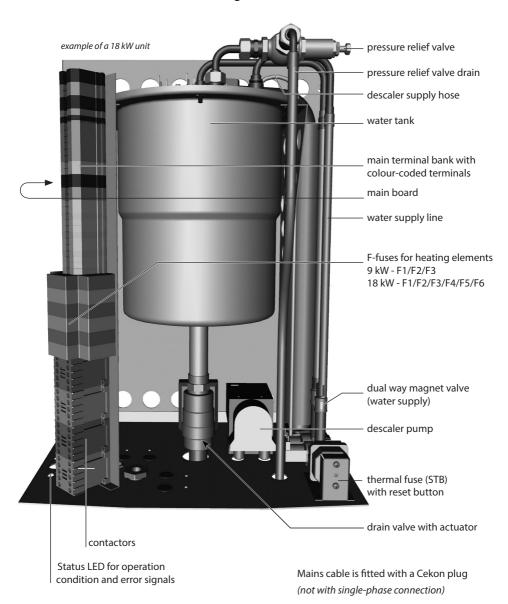
#### **Bottom view**



\* The cable gland of the mains cable has a warrant seal. Make sure not damage the seal. Warranty void by damaged or removed seal.

All incoming and outgoing connections go through the bottom panel (steam pipe may also lead upwards) and are accessible from outside.

#### **Overview without external housing**



### 5.3 Installation location requirements

The steam generator is only intended for installation outside of steam rooms and is connected to the room via a steam pipe. The following climatic conditions must be met at the installation site:

Ambient temperature during operation 5°C to 40°C

Air humidity during operation 30% to 75% rel. air humidity

Storage temperature: 0°C to 60°C

Stable wall for installation as the total weight can equal approx. 45 kg.

Near the unit: Mains connection 400 V 3N AC, with standardised CEE plug sockets (not with sing-le-phase connection)

Drain outlet below the unit or in close proximity

Water supply line in close proximity

Length of steam pipe, max. 10 m

All pipelines and connections must be accessible for service.

The room in which the steam generator is installed should be as near to the steam room as possible so that the pipeline distances are as short as possible.

#### **Steam room requirements**

Floor drain

Air extractor so that temperature control works properly

#### Steam generator requirements

Stable wall

Mains connection (as per technical data)

Water connection

Drain outlet

### **NOTICE**

### Damage due to inadequate installation site

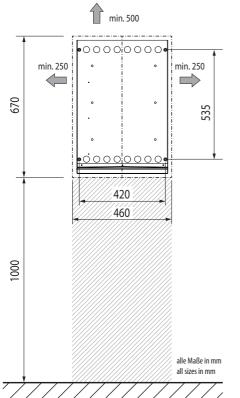
The steam generator may vibrate slightly when the water boils.

If the wall bearing capacity is insufficient or the wall is of poor quality, the steam generator cannot be securely installed and may fall off.

Before installation, check the quality and bearing capacity of the wall intended for installation. The wall must be able to support a total weight of max. 45 kg.

Before installation, check how the steam pipe is to be laid. Standard routing leads the line out from the steam generator downwards.

#### **Measurements for installation**



The following distances must be observed:

Distance bet- ween drill holes	Horizontal: 420 mm Vertikal: 535 mm	
On the side to the left and right	Min. 250 mm	
Тор	Min. 500 mm	
Bottom	Approx 1000 mm	
The space underneath the unit may not be occupied by other installations.		

#### 5.4 Mounting the steam generator

The steam generator is mounted on the wall with four (4) retaining screws and suitable anchors. Note that the steam generator may vibrate slightly when the water boils. Ensure that you have sufficient hardware for securing it if you do not use the supplied screws and anchors.

Necessary steps:

Preparing for installation

Loosen the vaporiser from the shipping plate

Removing the housing cover

Mounting the vaporiser

Hardware + tools:

Four 5 x 40 screws; four F6 anchors (included in scope of delivery)

Spirit level

6mm drill

Phillips screwdriver

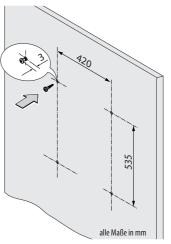
Recommendation: 2 persons to mount the vaporiser

#### **Preparing for installation**

1. NOTICE Ensure that the holes are aligned vertically and horizontally. Use a spirit level. Drill two (2) holes above and below.

Distance between lower edge and the floor: min 1000 mm
Distance to the ceiling: min. 550 mm
Horizontal distance between drill holes: 420 mm
Vertical distance between drill holes: 535 mm

2. Insert the anchors and screw in the top two screws. Allow the screws to protrude approx. 3 mm so you can hang the vaporiser on them.

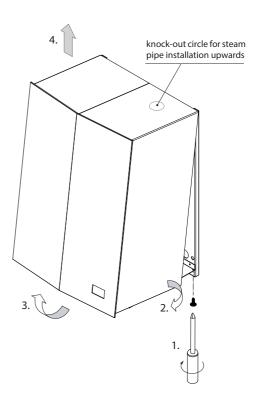


#### Loosen the steam generator from the shipping plate

- 1. CAUTION! Vaporiser and shipping plate weigh approx. 35 kg. Obtain help from a second person.. Lift the steam generator out of the shipping box with the shipping pla
  - te. Do not pull or hold the device by the plastic housing!
- 2. Place the shipping plate with the steam generator on a flat surface.
- 3. Removing the housing cover, as described below
- 4. Loosen the vaporiser from the shipping plate. (i) NOTICE
  - Completely remove the 4 fixing screws so that the steam generator can be lifted off the shipping plate.

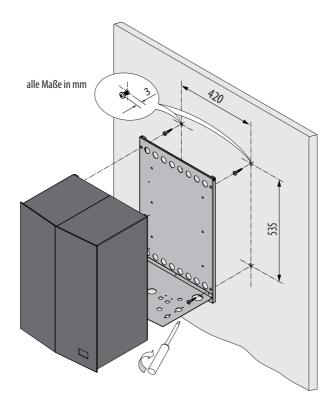
#### Removing the housing cover

- 1. Loosen the 2 retaining screws on the bottom of the vaporiser.
- 2. Pull the two side walls of the housing cover outward slightly.
- 3. Swing the housing cover carefully toward you and remove it upward.
  - NOTICE: It must be possible to move the cover's mounting brackets past the side of the metal housing.
- 4. Loosen the screws from the generator and remove the shipping plate.



#### Mounting the steam generator

- 1. CAUTION! Generatir and back wall of housing weigh approx. 28 kg. Two people are needed to mount the unit. Hang the generator on the pre-mounted screws by inserting the screws that are on the top of the rear of the unit into the keyholes and then allow the steam generator to drop down gently until it catches in place.
- 2. Ensure that the unit is perpendicular to the floor. (i) Drill new holes if needed.
- 3. Screw in the bottom two screws and tighten them.
- 4. Tighten the top two screws so that the unit is mounted securely on the wall. Position the housing cover in place only after the electrical connections and data lines have been mounted.



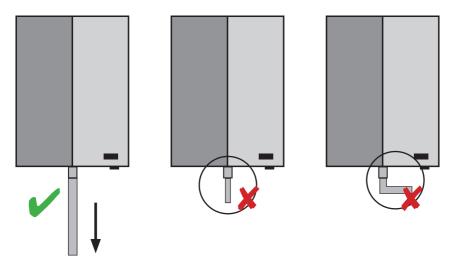
### 5.5 Water and steam pipes

#### **NOTICE**

The connection for the water supply line and drain outlet must comply with the European Union's current applicable standards DIN 1988/EN 1717 and DIN 1986/EN 12056. It may be necessary to install a check valve. Local regulations must also be observed.

- Lime deposits resulting from hard water have a considerable negative impact on the service life of the vaporiser. Systems that are used commercially must always be equipped with a water softening system to prevent the build-up of lime in the vaporiser tank. For privately used systems, a water softening system is required when the water hardness level equals 14° dH (approx. 2.5 mmol/l) or higher.
- The water must be potable. The water pressure must be between 2 and 8 bar.

#### Connecting the drain outlet correctly

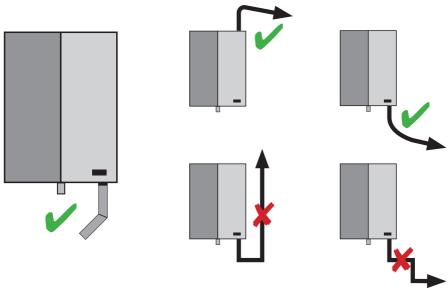


Correctly and incorrectly installed drain outlets for rinsing

- The diameter of the extending pipe must not be smaller than the drain outlet on the unit.(min. 40 mm).
- The drain pipe must not have any kinks.
- After descaling, the drain outlet and escaping water are very hot. The outlet for draining the
  vaporiser tank and the hose for excess pressure must be arranged in such a way that, if hot water
  escapes unexpectedly, it does not pose a risk to persons nearby.
- The connection for the drain must be capable of withstanding a temperature up to 110°C.



#### Positioning the steam pipe correctly

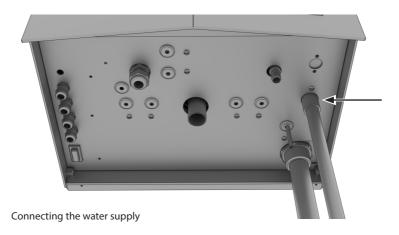


Correctly and incorrectly positioned steam pipe

- The pipeline for steam emission must be capable of withstanding temperatures up to 110°C. A copper pipe with a diameter of 35 mm is preferable.
- The copper pipe must be insulated with material capable of withstanding temperatures up to 110°C, e.g. mineral wool. This prevents the steam inside the steam supply from cooling and condensing, which optimises the delivery of steam to the cabin.
- Plastic pipes or flexible hoses with a metal sheath must be capable of withstanding temperatures up to 110°C and be resistant to corrosion and deformation.
- The steam pipe must have a diameter of at least 35mm. The diameter of the steam pipe may be smaller than the corresponding connection on the unit. Steam can enter the cabin quickly and with minimum loss when the pipe has a diameter of 35°mm, making the unit is almost silent when operating.
- The steam pipe must not have any kinks.
- The steam pipe must gradually descend toward the steam outlet at a 1 2° incline so that no condensate can collect in the pipeline. A siphon may be installed to remove condensate as needed.

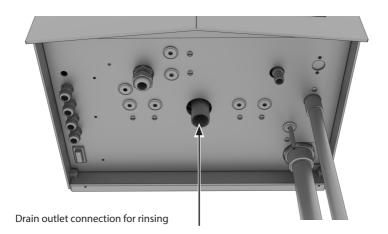
#### Connecting the cold water supply line

Connect the cold water supply to the 3/4" water supply line on the base plate of the housing with the supplied hose..



#### Connecting the drain outlet

- 1 Screw a drain pipe onto the 1" thread of the drain pipe.
- (i) Alternately, a hose can also be attached and tightened.



- ① The diameter of the drain pipe or hose must not be made smaller. The line must not have any sharp kinks.
- (i) See Correctly and incorrectly installed drain outlets for rinsing,
- 2 Run the drain pipe or hose to the drain or attach it to the waste water pipe.

#### 5.6 Mounting the steam pipe

#### **Necessary steps**

• Connecting the steam supply to the housing floor

#### Hardware + tools:

- Ø 35 mm pipe, heat-resistant up to 110°C
- T-piece: 1 1/4" for steam supply, 3/8" for essence nozzle
- Silicone, heat-resistant up to 110°C
- Spanner 19, 36, 46, 50

#### **NOTICE**

#### Contamination of and damage to the vaporiser tank

After descaling, and once the vaporiser tank is drained, a suction effect can occur, during which residue of essences from the steam supply can enter the tank.

Oils in the essences, even in small quantities, can create a thick layer of foam on the water's surface. The water level sensor cannot differentiate foam from water, and the actual water level lies significantly below the layer of foam. This could cause overheating and an emergency shutdown, which can lead to various types of damage, e.g. failure of the safety temperature limiter.

Furthermore, the foam can be drawn into the steam supply together with the water from the tank. The vaporiser tank is drained empty in just a few minutes from this suction. This can cause serious overheating.

- Connect the essence line so that it is not possible for condensate with essence to flow back into the vaporiser tank.
- Connect the essence line as close to the steam emission nozzle/cabin as possible.

#### **NOTICE**

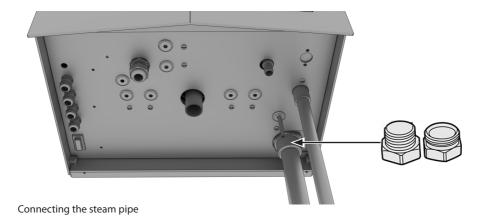
#### Damage to the steam supply

If the injection nozzle for essence is inserted from the side into the vertical pipe or from below into the horizontal pipe, it is possible for essence to dry up before drops of it reach the rising steam. In such instances, a sticky substance can form, which can block the injection nozzle and the pipe.

- Attach the injection nozzle to the section of the steam supply that slopes slightly toward the cabin.
- Insert the injection nozzle from above into the steam supply, so that the essence can drip down into the steam.
- Attach the nozzle as close as possible to where the steam is emitted near the cabin.

#### Connecting the steam supply to the housing floor

Connect the steam supply with the supplied 2-piece screw 1 1/4" on 35 mm to the steam emission.



As standard, steam emission runs downwards. The steam emission pipe can also be turned upward via the flexible joint at the generator cover.

Für die aufsteigende Verlegung der Dampfleitung siehe weitere Informationen auf der Seite 29.

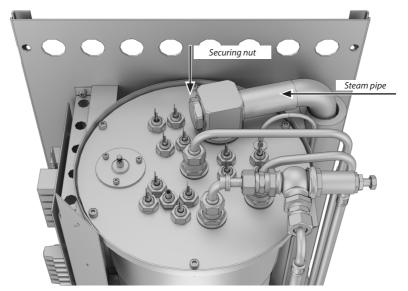


Image shows 18 kW version

Lay the steam pipe so it descends towards the steam outlet without any sharp 90° bends.

i) Positioning the steam pipe correctly

Check the screws in the tubular heating elements and tighten as needed (SW 19).

#### Rotate the steam pipe upwards and lay it in ascending order

Cut out the pre-punched opening for the ascending pipe in the housing.

- 1. Loosen the nut on the steam pipe's flexible joint.
- 2. Loosen the two screws on the base plate used to fix the steam pipe and pull the steam pipe out from the base plate.
- 3. Rotate the steam pipe upwards and retighten the nut on the flexible joint.
- 4. The possible connection of the fragrance dosing line should be placed as close as possible to the steam nozzle in the falling segment.
- 5. **Important note:** The connection of the fragrance dosing line must not be installed in the rising segment of the steam pipe. This can lead to fragrance residues getting into the water tank and causing excessive foaming. This can cause overheating and equipment damage.

#### 6. Electrical installation

### **▲** DANGER

### Risk of electric shock

A faulty electrical connection poses the risk of an electric shock. This risk also applies following completion of the installation work.

Electrical installation must only be carried out by a qualified and licensed electrician.

The connections are made according to the connection diagram or according to the following terminal diagrams

The generator has a pre-mounted power supply cable with a Cekon type plug (16A or 32A). For connection the appropriate socket with fuse protection has to be used.

The control unit is connected as shown in the following connection diagrams. To simplify the installation, the connection terminals are colour coded and all individually numbered.



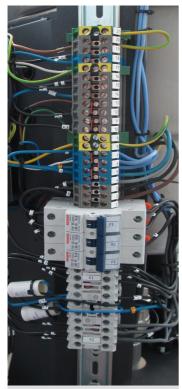
für Leistungsanpassung, 18 kW

### 6.1 SteamRock II Basic 18kW connection terminals

Terminal	Marking	Description
1	L1	L1 Phase
2	L1	(L4)
3	L2	L2 Phase
4	L2	(L5)
5	L3	L3 Phase
6	L3	(L6)
7-14	N	N
15-16	PE	PE power supply
16	PE	(PE power supply 2)
21	N1	N - control unit
22	S1	S1 - control unit
23	Wb	Steam on - control
24	PE	PE - control unit
25	ST1	Signal - output
26	ST2	Signal - output
27	Fragrance	Fragrance
28	PE	PE - Fragrance

Terminal diagram for SteamRock II Basic with 18 kW, 400 V connection (3 x 32 A).





Connection terminals and power selection switches (9 kW model).

# 6.2 SteamRock II Basic 9kW connection terminals

Terminal	Marking	Description
1	L1	L1 phase mains connection
2	L1	L2 phase mains connection
3	L1	L3 phase mains connection
4 - 7	N	N
8 - 9	PE	PE power supply
14	N1	N - control unit
15	S1	S1 - control unit
16	WB	Steam on - control unit
17	PE	PE - control unit
18	ST1	Signal - output
19	ST2	Signal - output
20	Fragrance	Fragrance
21	PE	PE - Fragrance

Terminal diagram for SteamRock II Basic, 9 kW, 400 V connection, with 3 x 16 A fuse.

The mains connection is made via the premounted connecting cable with a Cekon-type plug to the corresponding separately secured Cekon-type socket (not included, on-site device).

18 kW version - 32 A socket, 9 kW version - 16 A socket.

An external control is connected to terminals 14 to 19 (version 9 kW), or 21 to 26 (version 18 kW). A fragrance container is placed on terminals 20 and 21 (9 kW) or 27 + 28 (18 kW).

The control lines are potential-free towards the supply lines with the exception of the protective conductor.

#### Water level control

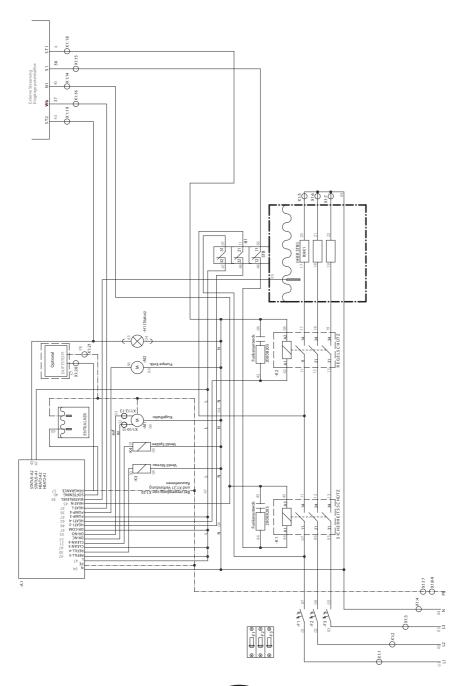
The water level and the water filling are automatically monitored and controlled by the built-in rod electrode.

Each time the mains voltage is switched on or when the connected external controller is switched on, a self-test of the rod electrode. is carried out.

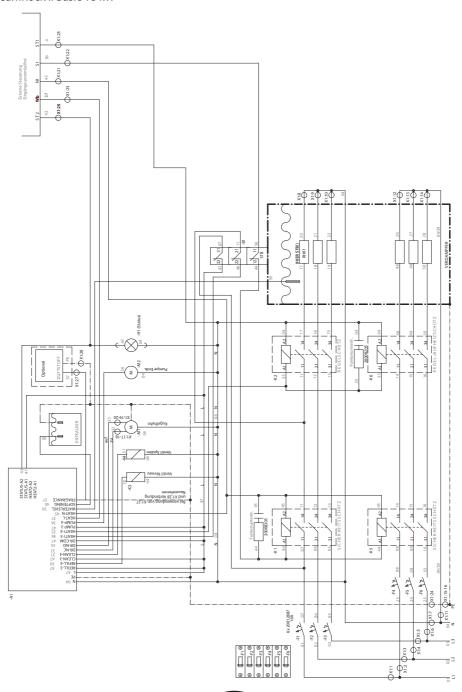
The self-test lasts about 30 - 270 seconds. If the maximum water level is already being measured, the water tank is emptied and refilled to check the function of the float switch. This process will take a few minutes. Afterwards the device is ready for operation. This process is part of the normal operation; the status LED on the device also lights up permanently.

# 6.3 SteamRock II Basic Main circuit diagram and internal wiring

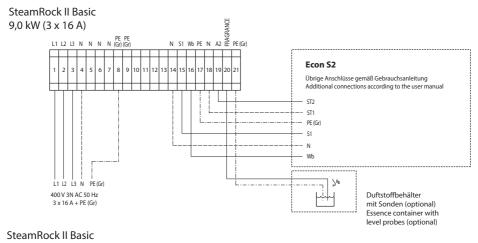
SteamRock II Basic 9 kW

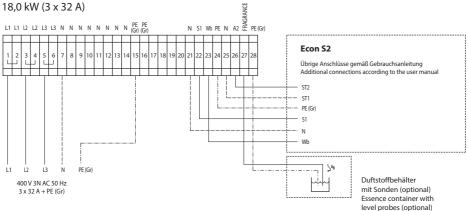


#### SteamRock II Basic 18 kW



#### 6.4 SteamRock II Basic connection to Econ S2

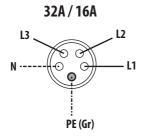






# Pay attention to provide the fuse protection on all power supply lines!

#### Pre-assembled Cekon plug power supply 400 V 3N AC - 32 A / 16 A



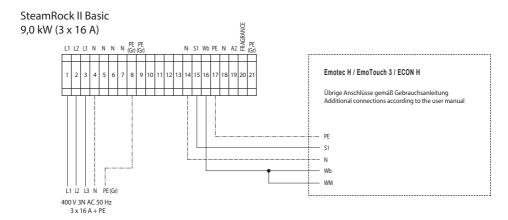
# **▲ DANGER**

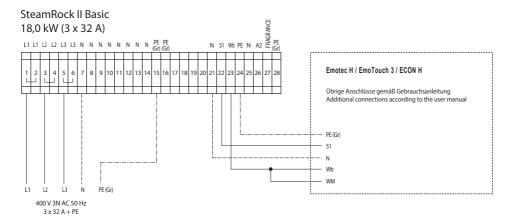
### Risk of fire due to overload!

No external loads may be connected to the main terminal block in the steam generator! The terminals can overheat and lead to fire.



### 6.5 SteamRock II Basic connection to EmoTouch 3 Sauna, EmoTec H, Econ H

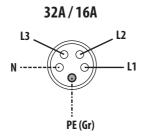






# Pay attention to provide the fuse protection on all power supply lines!

Pre-assembled Cekon plug power supply 400 V 3N AC - 32 A / 16 A



# **▲ DANGER**

### Risk of fire due to overload!

No external loads may be connected to the main terminal block in the steam generator! The terminals can overheat and lead to fire.



### 6.6 Leakage current

The leakage current must not exceed the following values in accordance with DIN EN 60335-1:2012-10:

For stationary class I heating appliances: 0.75 mA or 0.75 mA per kW rated power input of the heating unit, whichever is higher, up to a maximum of 5mA.

The electricity supply must be protected by a residual-current-operated protective device (RCD) with a rated fault current of <30 mA. Please ensure that no other electrical appliances are protected by this RCD device.

The applicable international (VDE), national and local (EVU) legal norms and requirements in their currently valid versions should be observed. All installation and verification work in Germany should be carried out by a licensed and appropriately qualified electrician in compliance with VDE 0100 part 701.

### 6.7 Special advice for water quality

### **NOTICE**

### Equipment damage due to unsuitable or contaminated water.

Water supplied to the steam generator may be contaminated with so-called plasticisers or similar substances which are able to modify the surface tension of water in the water tank.

This may cause strong foam building during water boiling. Boiling water may be spilled into the steam pipe or it may cause the generator to measure the water level incorrectly and lead to overheating and tripping of the safety temperature limiter.

Please make sure that the water pipe to the steam generator is made of materials that do not release plasticizers (plasticizers are located e.g. in PVC pipes).

Plasticizers may also be present in substances such as essential oils, essences and fragrances, certain cleaning agents and chemicals, which must not get into the vaporiser tank.



# 7. Cleaning system

### 7.1 General information and connection

The steam generator is equipped with an automatic descaling and draining system. Included with the delivery is a 5 I container for cleaning liquid (cleaning liquid not included, optional accessory) with the level probe.

Place the container under the steam generator (see page 11 for details). Connect the 2-core white cable to the corresponding contacts of the level probe in the container. Insert the suction PTFE tube from the peristaltic pump into the container, so that the tube end reaches the bottom.

Fill the container with the cleaning liquid. The liquid level will be monitored thanks to the level probe integrated in the container. By low level an error code will be given.

Make sure that the bottom of the level probe does not touch the bottom of the container and has approx. 1 cm gap.

### **⚠** CAUTION

# Risk of injury from descaler

The cleaning liquid is an acid solution. Corrosive! Irritating on skin and eyes! Make sure to wear appropriate protection and observe due precautions by refilling the container. Avoid contact with clothing. Observe the instructions on the safety data sheet of the descaler.

### **⚠ WARNING**

# Risk of poisoning from toxic fumes

Handle the container with the cleaner liquid with care. Do not place it close to other chemicals - risk of toxic fumes.

### **NOTICE**

Place the container for cleaner not higher than the bottom of the steam generator. Use only the suitable cleaner designed for descaling of water boiling equipment, dilute if necessary as specified by the manufacturer. The approved cleaner is available at EOS as an accessory. The warranty will be void by the use of an unsuitable and unapproved cleaner liquid.

Das Entkalkungssystem wird je nach Wasserhärte und Nutzungsintensität eventuell nicht in der Lage sein, alle Kalkablagerungen zu entfernen. In diesem Fall ist eine Wasserenthärtungsanlage vorzuschalten.

By commercial operation an external water softening system must be pre-installed in either case.

### 7.2 Functioning of the cleaning system

The steam generator features an integrated automatic descaling and draining system.

This system will automatically descale the water tank at certain intervals. These intervals depend on the evaporated water quantity. They do not depend on the total "switched on" time which may have certain intervals without actual steam production. After the descaling the water tank will be rinsed and drained. High pressure blast of water directed at the drain will help to split scale flakes into smaller pieces and clear them out of the tank during the draining.

The descaling cycle will start if the calculated time interval for cleaning has been reached and the steam generator remains idle (no steam production) for 45 minutes. This is interpreted as the end of the steam operation session which allows the cleaning cycle to start.

In the case the steam generator is operated in a manual non-stop mode a forced descaling cycle will be carried out after 24 h of operation.

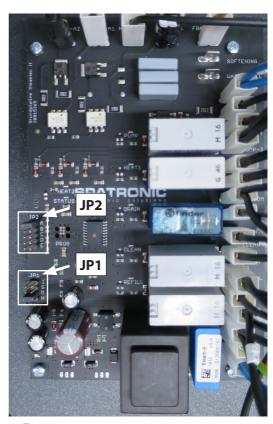
The descaling cycle will be also started if the steam generator has reached the calculated time for cleaning and has been disconnected from power and then connected to power again.

If the calculated time for the next descaling has not yet been reached but the generator has been stopped for 45 minutes then it will drain the water tank without descaling. This will take approx. 10 minutes time.

If this feature (intermediate drain) is notdesired it may be disabled as follows:

#### Activate / deactivate water change:

- Disconnect the power supply and open the steam generatorIm
- Set the jumper JP1 Jumper to H and S (use the spare jumper removed from JP2).
- Switch on the power supply.
- The "Status LED" on the main board will flash
  - two times if the draining function is enabled
  - three times if the draining function is disabled
- Disconnect the generator from power
- Set the jumper JP2 back to "A" position, set the jumper JP1 to the original position, switch the power supply to the steam generator.





# 8. Adjustment of the performance

SteamRock II Basic steam generators have a fast-tuning performance that can be adjusted to the cabin size in a few seconds on-site.

The switching capacity is set by means of F-fuses (see Fig. 9) on the main terminal block.



F-fuse in SteamRock II Basic 18 kW

Each F-fuse adjusts the power by 3 kW. An 18 kW model allows therefore 18/15/12/9/6/3 kW power output. A 9 kW model allows respectively 9/6/3 kW power output..

The adjustment of the power can be done with any fuse except F1.

### The F1 fuse must always be switched on.

Figure 9 shows F1-F6 fuses in the 18 kW model. The 9 kW version features F1 - F3 respectively.

In order to reduce power, switch the fuse to the RIGHT. Each switch equals to 3 kW power capacity. To increase power, switch the fuse back LEFT to the "ON" position. All fuses are factory set to "on".

Select the power output to match the cabin size. We recommend to check the power requirement in advance and select the optimal setting.

Example 1	Example 2	Example 3	Example 4	
OFF ON	OFF ON	OFF ON	OFF ON	
F1	F1	F1	F1	
F2 =	F2	F2	F2 0	
F3	F3 •	F3	F3	
F4 =	F4 =			
F5	F5			
F6	F6			
18 kW model	18 kW model	9 kW model	9 kWmodel	
18 kW power activate	ed 12 kW power activated	9 kW power activated	6 kW power activated	

### **Examples of power-configurations:**

F1	F2	F3	normal operation
х	х	x	9 kW
х	0	x	6 kW
х	0	0	3 kW

x = ON 0 = OFF

for 9 kW

F1	F2	F3	F4	F5	F6	normal operation
х	х	х	х	х	х	18 kW
х	х	х	0	х	х	15 kW
Х	х	0	0	x	х	12 kW
Х	х	0	0	0	х	9 kW
Х	0	0	0	0	х	6 kW
х	0	0	0	0	0	3 kW

for 18 kW

# **Important NOTICE**

The adjustment of the power output may only be carried out by a qualified specialist. Make sure to conduct a practical test to ensure that the steam room functions correctly after the power adjustment.

Special attention is required for power increase. If you are unsure which power to select, start with a lower setting first. If necessary, contact EOS Customer Service.

### **A** CAUTION

# Risk of scalding from excessive humidity and temperature

During commissioning, it must be ensured that the set power matches the cabin size and is not able to generate excessive temperatures in the cabin.

The temperature in a steam room must not exceed 50 °C, unless it is limited by the control unit.

During a humid sauna operation, make sure that there is no impermissibly high air humidity in relation to the air temperature in case the climate is not monitored by the control unit.

# 9. General operation

SteamRock II Basic steam generators feature individually switchable heating elements that allow better adaption of the steam production to the individual cabin situation.

The SteamRock II Basic does not have an on / off switch. The device is permanently connected to the mains and is switched on and off by an external control by wiring the inputs WB, S1 and N. Such a control must be purchased separately.

All tubular heaters (heating elements), insofar they have not been deactivated by switching off the corresponding fuse, are switched on as soon as a signal is applied to the lines Wb and S1. If there is no signal on the line Wb, all tubular heaters are switched off immediately.

Before opening the cover, the device must be disconnected from the mains by pulling the plug.

SteamRock II Basic steam generators feature an operating light (status LED) that indicates current operating conditions or malfunctions. The operating light is located on the bottom side of the device (see page 12).

The status LED does not light up when the device is switched off. During normal operation, the status LED lights up permanently. Further information can be found in the chapter "Troubleshooting".

### Flashing codes of the status LED:

- Off Steam generator switched off
- Permanently on Normal operation
- 1 x → flash Wait for descaling
- 2 x >• flashes Descaling is in progress
- 3 x ≥• € flashes Error: descaler empty
- 4 x ≥• € flashes Error: filling error
- 5 x >• flashes Error: draining error
- 6 x ≥•< flashes Error: fragrance container empty (optional accessory)
- Permanently ⇒ flashing Incorrect setting (configuration)

# **A** DANGER!

# Risk of electric shock.

- In the event of a faulty electrical installation, there is a risk of electric shock (evenafter completion of the installation work).
- The electrical installation may only be carried out by a qualified electrician.
- Before removing the cover, the device must be disconnected from the mains by pulling the plug.

### 9.1 Resetting the safety temperature limiter (STB)

The safety temperature limiter (STB) switches off the heater if the vaporiser tank overheats. To restart the heater, you must press the Reset button.

### **A** CAUTION

# Risk of burns from hot parts

The steam pipe on the base plate is very hot.

- Do not touch the steam pipe.
- Allow the steam generator to cool down for at least 30 minutes.
- Wear protective clothing (gloves).

#### NOTICE

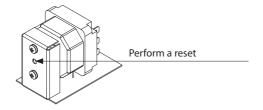
# Damage to the safety temperature limiter

The safety temperature limiter can become damaged if you press the Reset button without troubleshooting the cause of overheating. Pressing the Reset button without troubleshooting the cause can damage the safety temperature limiter and can lead to overheating and indirect damages to the steam generator.

- Troubleshooting and Reset/operation of the safety temperature limiter must be performed only by qualified personnel..
- Rectify the reason for overheating.
- Allow the steam generator to cool for approx. 30 minutes.
- The Reset button should be operated only by qualified personnel.

### **Performing a reset**

- 1. Rectify the reason for overheating.
- 2. Open the housing,, see chapter 5.4.
- 3. Use a suitable tool to lightly press the Reset button on the safety temperature limiter. If light pressure is not sufficient, wait until the steam generator has cooled down some more.
- 4. Close the housing.
- 5. Restart the unit.



# 10. Cleaning and servicing

The SteamRock II Basic steam generator must be serviced and cleaned regularly. The frequency depends on how often it is used. The integrated cleaning and descaling system increases the service life of the steam generator. It does not replace an upstream water softening system, which is required for hard water or if used commercially. The steam generator must also be serviced regularly.

## 10.1 Regular maintenance

#### **Recommended service intervals**

- Private use once a year
- Commercial use at least twice a year or more depending on the intensity of use and water quality.

### **A** DANGER



# Danger to life and limb from electrical currents

Before opening the housing, disconnect all power supplies.

# **A** CAUTION

# Risk of scalding from hot water

The drain outlet and escaping water can be very hot.

- Allow the vaporiser tank and pipelines to cool for approx. 30–45 minutes..
- Begin service work only once the steam generator has been switched off and is cool..
- Wear safety goggles/protective clothing (gloves).

### **A** CAUTION

# Risk of poisoning from steam

Descaler can react with other chemicals, which can create poisonous steam.

- The container for the descaler may only be placed under the steam generator.
- Never place containers with descaler close to other chemicals.
- Never place other chemicals close to the container of descaler.

#### Servicing

- Check and clean all pipes as needed
- Check and clean the drain as needed
- Check and replace the pump hose for the descaling pump and essence pump as needed
- Visual inspection: Lime scale in the vaporiser tank
- Check the rod electrode and clean manually, if needed.
- Check and clean the drain valve
- Open the vaporiser tank and check the internal surfaces for lime scale. Clean as needed. Check
  the water quality if there is an increased amount of visible lime scale. Install an upstream water softening system as needed. Ensure that the unit has a supply of soft water. See Removing
  the cover from the vaporiser tank
- Check the washer for the cover of the vaporiser tank. Replace old, hardened, or damaged seals.

# 10.2 Servicing the vaporiser tank

# **▲ DANGER**



■ Danger to life and limb from electrical currents

This risk exists also after installation work has been completed.

Before servicing the vaporiser tank, disconnect the connection to all power supplies.

# **⚠** CAUTION

# Risk of scalding

The drain outlet and escaping water can be very hot.

- Begin service work only once the steam generator has been switched off and is cool.
- Allow the vaporiser tank and pipelines to cool for approx. 30–45 minutes.
- Wear protective clothing (gloves).

#### Removing the housing cover

- Disconnect the mains connection and shut off the water supply.
- Remove the housing cover.



### Checking the level sensor

Disconnect the connecting cable from the level sensor from the "level sensor" slot on the main circuit board.

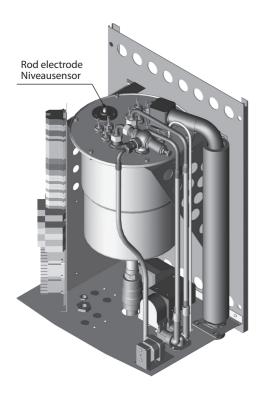
Then unscrew the 3 socket screws (A), pull out the plate (B) with seal (C) and level sensor upwards. Check the tip of the rod electrode (D) for calcification.

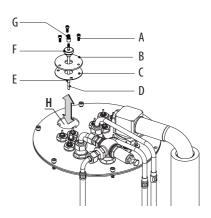
If limescale builds up, carefully clean the tip mechanically. Make sure that the plastic coating of the rod electrode is not damaged.

### **NOTICE**

# Equipment damage if the insulation of the level sensor is damaged

Damaged insulation of the level sensor can lead to the level control not working reliably anymore and leading to overheating and equipment damage.





A = M 4x12 socket screw

B = retaining plate

C = silicone seal

D = rod electrode

E = insulating hose

F = grommet

G = M4 hexagon nut

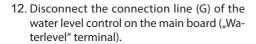
H = opening in the tank cap

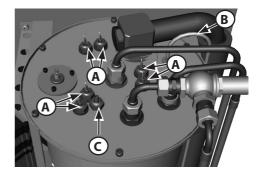
### 10.3 Dismantle the vaporiser tank with heating spirals

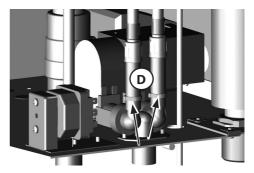
If necessary, the vaporiser tank can be opened as follows:

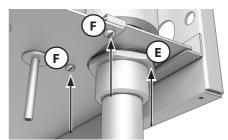
#### Removing the cover from the vaporiser tank

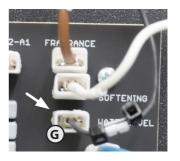
- CAUTION! Check if the mains connection has been disconnected and close the water supply. Allow the steam generator to cool for approx. 30–45 minutes. Wear gloves.
- 2. Unplug the connections (A) from the heating coils.
- 3. Mark the lines so that you maintain the correct sequence when you plug them back in.
- CAUTION! The descaler hose has descaler residue. Wear gloves. Remove the descaler hose and place it in a bucket so that the descaler can drain.
- 5. Remove the descaler hose (B) and place it in a bucket so that the descaler can drain.
- 6. Remove the capillary tube sensor (C) from the intake pipe.
- 7. Carefully lay the capillary tube sensor to the side.
- The capillary tube may not be kinked, jammed, or damaged. The capillary tube sensor may not be damaged.
- 9. Loosen the 2 hose clamps (D) at the double valve and remove the flexible water supply lines.
- 10. Loosen the steam supply (E) at the housing floor.
- 11. Loosen the 2 screws (F) for the steam pipe on the carrier plate.





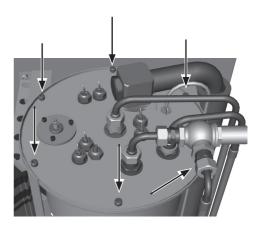








13. Loosen the 6 hexagon socket screws above on the cover.



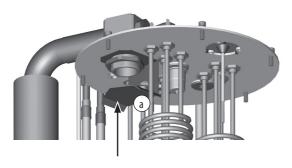
- 14. Lift up the cover with the connection parts until the heating coils have been removed completely from the vaporiser tank.
- 15. Remove lime scale mechanically from the floor and inner walls of the vaporiser tank. Clean the walls with chemicals, as needed. For example, clean off oily foam remnants.
- 16. Check the seal for damage and replace as needed.



#### Closing the vaporiser tank

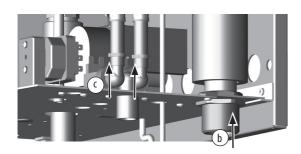
Now mount the cover with heating spirals on the container. The assembly takes place in the reverse order. Make sure that the silicone sealing ring fits the mounting holes so that the socket screws can be screwed in. Please also note that the baffle plate (a) at the bottom of the container lid does not bend. Reconnect the steam pipe on the coupling to the device.

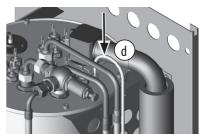
Reconnect the heating spirals.



Check all screws for tightness before commissioning. Connect the steam pipe (b) to the bottom of the housing. Place the flexible water pipe on the water inlet valve and fix it with the hose clamps (c). Attach the descaling hose (d) to the connection nipple for the descaler.

Then check the water tank and all attachments for leaks before recommissioning.

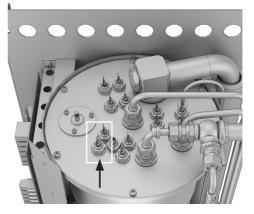




# **NOTICE**

Equipment damage due to overheating with incorrect connection.

Please make sure that the first heating spiral, as marked on the right, is connected to the same, colour-coded supply line.



# 11. Troubleshooting

SteamRock II Basic steam generator will display the operation states and common malfunctions by flashing of the main operation LED (pilot lamp) on the bottom housing of the unit.

### Flashing codes of the status LED:

- Off Steam generator switched off
- Permanently on Normal operation
- 1 x >• flash Wait for descaling
- 2 x >• flashes Descaling is in progress
- 3 x >• flashes Error: descaler empty
- 4 x >• flashes Error: filling error
- 5 x >• flashes Error: draining error
- 6 x >• flashes Error: fragrance container empty (optional accessory)
- **Permanently** >• **flashes** Incorrect setting (configuration)



Status-LED

### Possible faults and troubleshooting

### **Fault:** Overheating limiter fuse releases repeatedly.

**Reason:** Water level too low, overheating limiter fuse mounted incorrectly. Water supply issues (filter blocked, too low pressure).

**Solution**: Check the limiter fuse for correct position. Inspect water tank for limescale and clean if necessary. Check water supply line.

**Reason:** Water foaming through contamination by oils, plasticiser and similar substances. Incorrect water level detection which leads to overheating.

**Solution**: Check water supply for possible contamination sources (e.g. PVC tubes and pipes). Check the essence dosing injection connection - make sure essences may not get into the tank. Clean the tank thoroughly if contaminated with oils.

#### Fault: Drain fault

**Reason:** drain blocked with scale chunks and deposits. Drain discharge line connection incorrect (smaller diameter, sharp bends).

**Solution**: Open water tank and clean the drain. Make sure the drain pipe and the drain valve are clear. Alternatively dismount the actuator, manually open the ball valve and clean the drain from below. Then close the valve and mount the actuator back. Make sure the drain discharge line connected to the generator has at least the same diameter and has no sharp angles.

Use the optionally available filtering grill in the water tank to keep the drain clear.

Reason: Actuator or ball valve faulty

**Solution**: Contact FOS customer service for assistance

### Fault: Water filling fault

Reason: Water supply blocked.

**Solution**: Check water supply. Check if the filter mesh at the water supply connector is blocked, clean if necessary.



Reason: Water filling valve is blocked or faulty.

**Solution**: Clean the valve (e.g. pressurized air) and make sure it is operational.

**Reason:** Water level probe got stuck or is faulty.

**Solution**: Make sure the float of the probe can move freely, clean if necessary and check for functionality (see chapter installation > water level control for details).

#### Fault: No decaler liquid (also shown on the Econ S2 display)

**Reason:** Descaler level low. Connection cable to level probe interrupted.

**Solution**: Refill descaler (cleaner). Check the level probe and cable connections.

Restart the generator.

#### **Fault:** Thermo-fuse triggered (also shown on the Econ S2 display)

Reason: Overheating in the water tank.

**Solution**: See point #1 "overheating limiter fuse". Restart the generator.

#### Fault: Steam outlet spits hot water.

Reason: Water foaming.

**Solution**: Check if the water may be foaming due to contamination with oils or similar substances. Clean the tank if necessary.

**Reason:** Steam pipe installed incorrectly, steam pipe blocked by condensed water.

**Solution**: Make sure the steam pipe is not blocked by condensed water. If necessary a syphon may need to be installed. Make sure the steam can go through the pipe freely.

Reason: Water level probe fault.

**Solution**: Inspect the water level probe, clean if necessary. Make sure that the float can move freely. See page 17 for details.

#### **Fault:** No steam produced (heating does not start)

Reason: Overheating limiter fuse released.

**Solution**: Overheating due to too low water level. Reset the limiter fuse by pushing firmly on the reset button located on the bottom side of the generator under the rubber cap (see page 12). Inspect the generator for possible reasons for overheating. Attention! Allow min. 5 minutes to cool down the generator.

#### Fault: Status LED flashes continuously

**Reason:** Incorrect configuration or setup (e.g. jumper JP1 or JP2 set incorrectly) **Solution**: Check the jumpers JP1, JP2 for correct position. Restart the generator. Check connection to control unit.





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



# **Service Address:**

EOS Saunatechnik GmbH Schneiderstriesch 1

35759 Driedorf, Germany

Tel: +49 (0)2775 82-514 Fax: +49 (0)2775 82-431

servicecenter@eos-sauna.de www.eos-sauna.de

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

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

**Equipment commissioning date:** 

Stamp and signature of the authorized electrician:

### **General Terms and Conditions of Service**

#### I. Scope

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

#### II. Costs

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

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

There shall be no third-party billing.

# III. Obligations / Ordering Party's cooperation

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

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

#### IV. Service visit by the manufacturer

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

#### V. Liability

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

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

#### VI. Manufacturer's Guarantee

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

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

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

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

As of 08/2018

