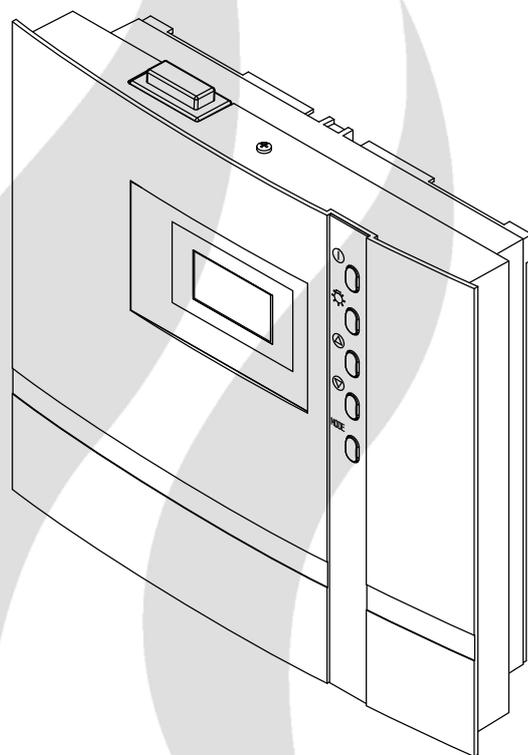


ECON H4

sauna control unit



GB Installation and operating instruction

Made in Germany

CE IP x4



English

content

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Standard delivery

(Subject to change)

Included in control unit scope of delivery:

1. Stove sensor board with over-temperature fuse, PTC sensor with sensor housing, two attachment screws 3 x 25 mm and sensor cable approx. 2.0 m long.
2. Plastic bag containing three mounting screws 4 x 20 mm.
3. Spare over-temperature protection

Technical data

- Rated voltage: 400 V 3 N 50 Hz AC
- Switch output: max. 9 kW resistive load (AC1 mode) Humidity mode: 6 kW + 3 kW for vaporizer equipment. Can be expanded to 36 kW via the connection of power switching devices
- Heat-up time restriction: 6 h, 12 h / without heat-up time restriction
- Display: LCD display 65 x 37 mm, graphic
- Dimensions (HxWxD): 220 x 250 x 67 mm
- Protection class: IPx4 acc. to EN 60529 splashwater protection
- Control range in the sauna mode: 30 to 115°C
- Control range in the humidity mode: 30 to 70°C
- Humidity control (without humidity sensor): time-proportional (10 levels)
- Humidity control (with humidity sensor): Permanent control via the humidity sensor F2 (with humidity sensor Art.-No. 909479 or 945027 according to EN 60335-2-53). See information!
- Sensor system (temperature): PTC sensor with safety temperature limiter 142°C
- Water level monitoring: Lack of water in the vaporizer will cause the heating system to shut down after 2 minutes.
- Control characteristic: Two-point control with fixed hysteresis of 3K. For control via the stove sensor offset of 7K to compensate the higher temperatures directly below the cabin ceiling
- Fan output: max. 100 W, no capacitor motors, controlled via phase control
- Light: max. 100 W (automatic switching phase control / phase cut-off)
- Re-heating: 30 min. at 90°C after the humidity program has been stopped
- Ambient temperatures: -10°C to +40°C
- Storage temperature: -20°C to +70°C
- Temperature display stove sensor: Current value on the stove sensor minus 7K to compensate the higher temperatures directly below the cabin ceiling
- Temperature display bench sensor: Current value on the bench sensor

Dear customer

You have purchased a high-quality technical device with which you will have years of sauna fun. This sauna control unit was designed and inspected according to the current European safety standards and manufactured at the factory in accordance with the quality management standard DIN EN ISO 9001:2000.

This detailed installation and operation manual has been prepared for your information. Please observe in particular the **important notes** and the information on electrical connection.

We wish you exhilarating recreational experience and lots of fun with your sauna!

Intended use

This sauna control unit is exclusively intended for the control of the sauna heater in a sauna cabin.

Any other use over and above the intended purpose is not considered as appropriate use! Compliance of the standard operation, maintenance and repair conditions is also an element of appropriate use.

The manufacturer cannot be held liable for deviating, unauthorized alterations and any resulting damages: the initiator of these changes bears the full risk.

General information

Please check whether the unit has arrived in perfect condition. Any transport damages should be immediately reported to the freight forwarder delivering the goods or you should contact the company that shipped the goods.

Please note that you will only be able to achieve an optimum sauna climate if the cabin with its air intake and ventilation, the sauna heater and the control unit are aligned to each other.

Please observe the information and stipulations made by your sauna supplier.

Sauna heaters heat up your sauna cabin using heated convective air. Here, fresh air is drawn in from the air intake which, when heated, rises upwards (convection) and is then circulated within the cabin. Part of the used air is pushed out through the vent in the cabin. This creates a typical sauna climate which can achieve temperatures of approx. 110°C measured directly under the ceiling of your sauna, dropping in temperature to approx. 30-40°C towards the floor. It is therefore not unusual to measure temperatures of 110°C on the temperature sensor hanging over the heater, whilst the thermometer hanging on the sauna wall, approx. 20-25 cm under the cabin ceiling, only indicates 85°C. The bathing temperature generally lies between 80°C and 90°C in the area of the upper bench when the temperature is set to maximum.

Please note that the highest temperatures are always generated over the sauna heater and that the temperature sensor and the safety limiter must be mounted there in accordance with the control unit installation instructions.

When heating up for the first time, you may notice a slight smell caused by evaporating lubricants used in production processes. Please ventilate your cabin before beginning your sauna bath.

General safety precautions

- This device can be used by children aged 8 upwards and by persons with physical, sensory, or mental disabilities, or who have inadequate experience and knowledge if they are supervised or if they have received adequate instruction in how to use the device safely and understand the associated risks. Children may not play with this device. Children may not clean or carry out any user maintenance if unsupervised.
- Children are to be supervised in order to make sure that they do not play with this device.
-  **Attention:** It is forbidden to install the control box in a closed switch cabinet or behind a wooden panelling!
- The electrical installation may be done only by a qualified electrical technician.
- You must comply with the regulations of your power supply company and applicable VDE regulations (DIN VDE 0100).
-  **WARNING:** Never attempt repairs or installations yourself, as this could result in serious injury or death. Only a qualified technician may remove the housing cover.
- Please note the dimensions in the assembly instructions, especially when installing the temperature sensor. The temperature above the oven is critical for the temperature setting. The temperature can be held within operating parameters and a minimal temperature gradient inside the bench area of the sauna cabin can be achieved only if unit is assembled correctly.
- The device may only be used as intended as a control unit for sauna ovens up to 9 kW (up to 36 kW when combined with a contactor box).
- Completely disconnect the control unit from the electrical circuit, i.e. flip all circuit breakers or the main circuit breaker during each installation or repair.
- Please note the safety and installation information from the sauna oven manufacturer.
- Always heed the specifications and instructions of the cabin manufacturer, too.
-  **If control units with remote control options* are used, protection against activation when the heater is covered is required. (e.g. cover protection Type 1-5 or S-Guard).**

**Telecontrol = setting up, controlling or adjusting a unit by a command that can be given out of view of the unit by means of transfer media such as telecommunication, audio technology or bus systems. (this also includes weekly timers)*



When designing the cabin ensure that the external exposed glass surfaces only reach a maximum temperature of 76°C. If necessary, protective features need to be fitted.



Attention!

Dear customer,
according to the valid regulations, the electrical connection of the sauna heater and the control box has to be carried out through the specialist of an authorized electric shop

We would like to draw your attention that in case of a warranty claim, you are kindly requested to present a copy of the invoice of the executive electric shop.

Installation of the control unit

Wall installation

The control unit may only be mounted outside the sauna cabin. It is advisable to select the outside wall of the cabin to which the sauna heater is fixed from the inside as mounting position. If ductwork is already provided for electrical installations then the position of the control unit is predetermined by that. Please follow the instructions for installation:

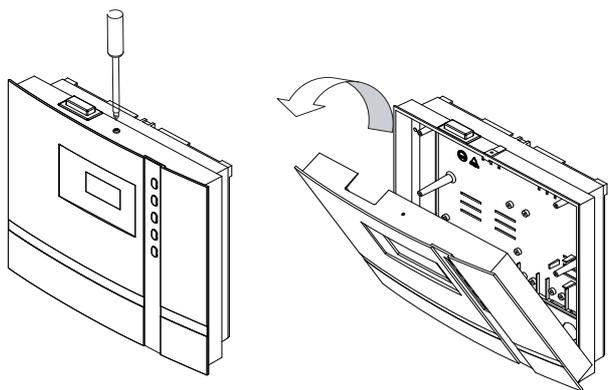


Fig. 1

Remove the control device cover. In order to do this loosen the screw at the top of the housing and pull the housing top upward while swivelling (Fig. 1).

Surface-mounted installation

1. The 3 mm diameter boreholes for the supplied wood screws 4 x 20 mm are drilled according to the dimensions shown in Fig. 3 + 3.1.
2. Insert one of the wood screws into the top center hole. The control unit is hooked onto this screw. Therefore, leave the screw out by approx. 3 mm (Fig. 3.2).
3. Hook the control unit onto the 3 mm protruding screw in the upper mounting hole. Insert the supplied rubber grommets into the openings at the rear wall of the housing and insert the connecting cable through these openings.

Fasten the housing bottom at the two bottom openings (Fig. 4) firmly to the cabin wall.

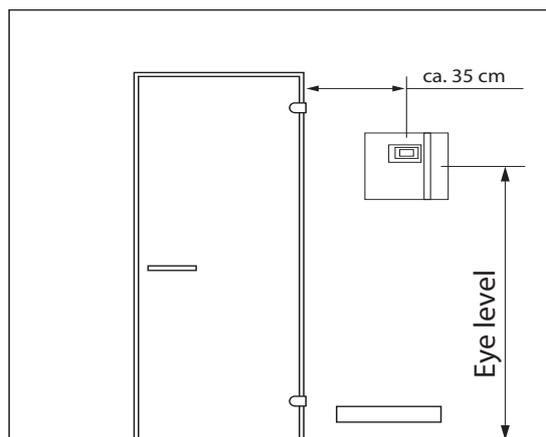


Fig. 3

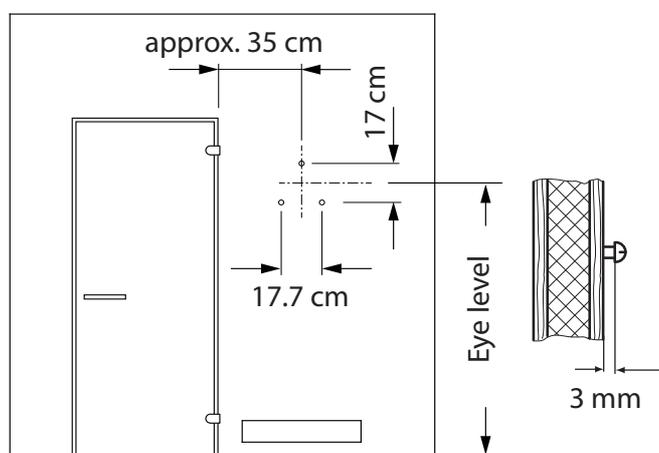


Fig. 3.1

Fig. 3.2

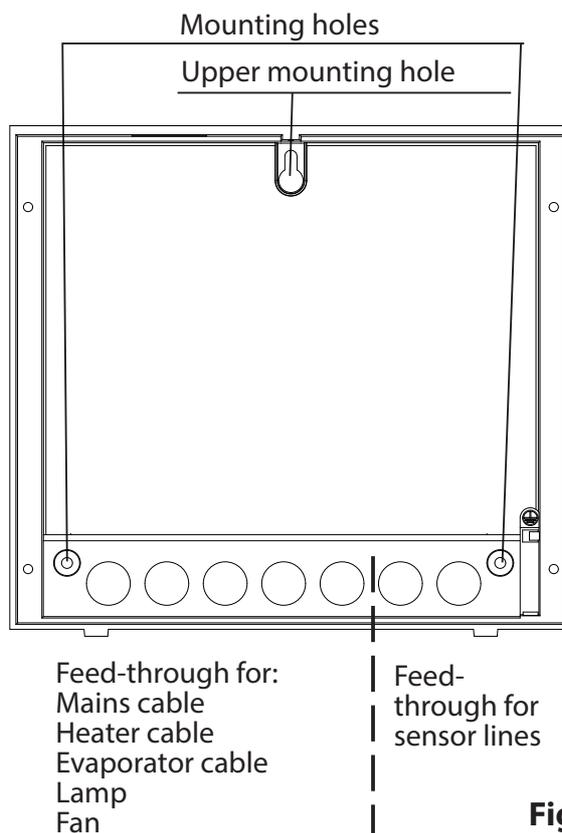


Fig. 4

Recessed installation

1. Cut out a wall section that is at least 3.5 cm deep according to the dimension in Fig. 5.

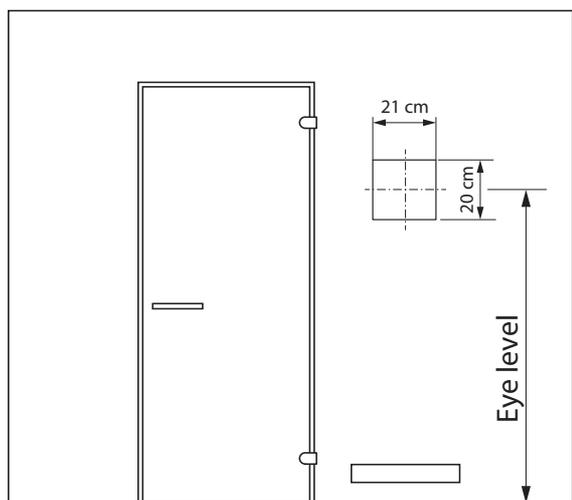


Fig. 5

Insert the supplied rubber grommets into the openings at the rear wall of the housing and insert the connecting cables through these openings.

Place the control unit into the wall opening and fasten it with 4 wood screws.

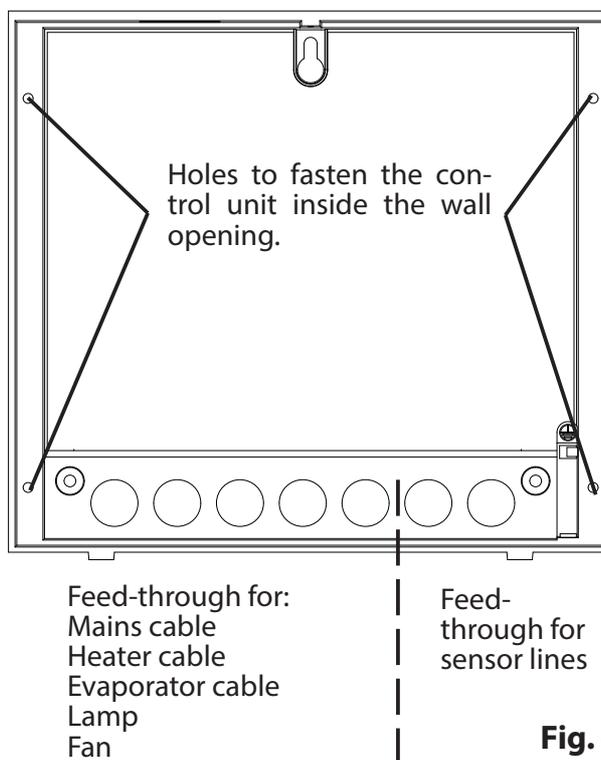


Fig. 6

Connecting the sensor cables

You should not install sensor and power supply lines together, or lead them through the same feedthrough. This can lead to interferences in the electronics, such as "fluttering" in the relays. If it is necessary to lay the cables down together, or if the line is longer than 3m, use a shielded sensor cable (4 x 0.5 mm²).

Connect the shielding to ground in the control unit.

Please note that the following dimensional information refers to values defined by the device test in compliance with EN 60335-2-53. The stove sensor always needs to be mounted at the place where the highest temperatures are expected. Fig. 7 - 9 provide an overview of the sensor assembly position, unless the position is defined in the user manual for the stove.



Installation of the heater sensor

1. The stove sensor is mounted in cabins up to 2 x 2 m in size as shown in Fig. 7 and 9; in larger cabins it is mounted as shown in Fig. 8 and 9.

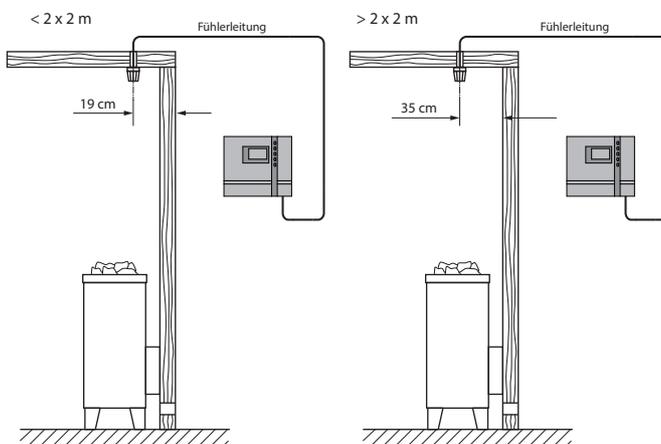


Figure 7

Figure 8

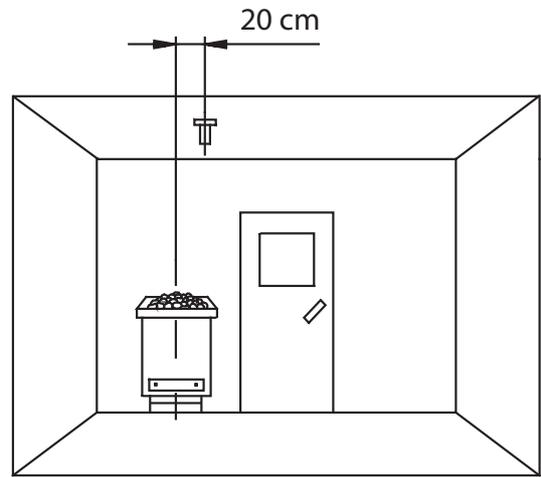


Figure 9

2. Drill a hole for the cable opening, preferably in the middle of a profiled plank.
3. Feed the sensor cable through the drilled hole and then connect the sensor line as shown in Fig. 10.
4. The lines for the limiter (white) and connect the temperature sensor (red) according to Fig. 10 to the sensor board: Then click the sensor board into position in the housing.
5. Guide the sensor lines to the control unit and feed them into the device through the right-hand cable opening. Install the sensor lines within the control unit as shown in Fig. 11. Connect the sensor lines as shown in Fig. 12. To this end, the plug **X2** is disconnected from the board and then reinserted after the connection.
6. After mounting and the correct operation of the control unit, the line to the over-

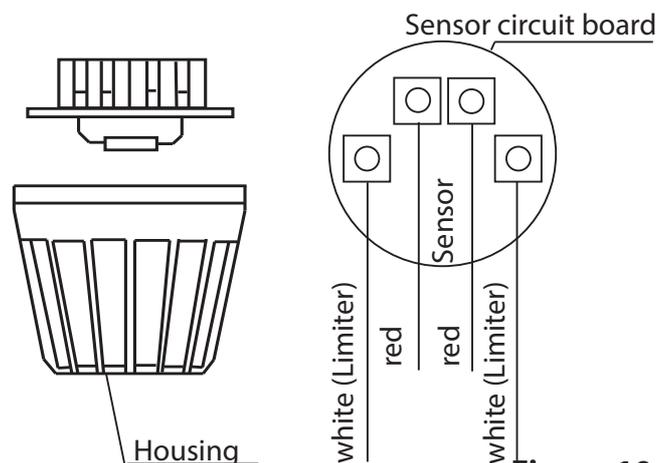


Figure 10

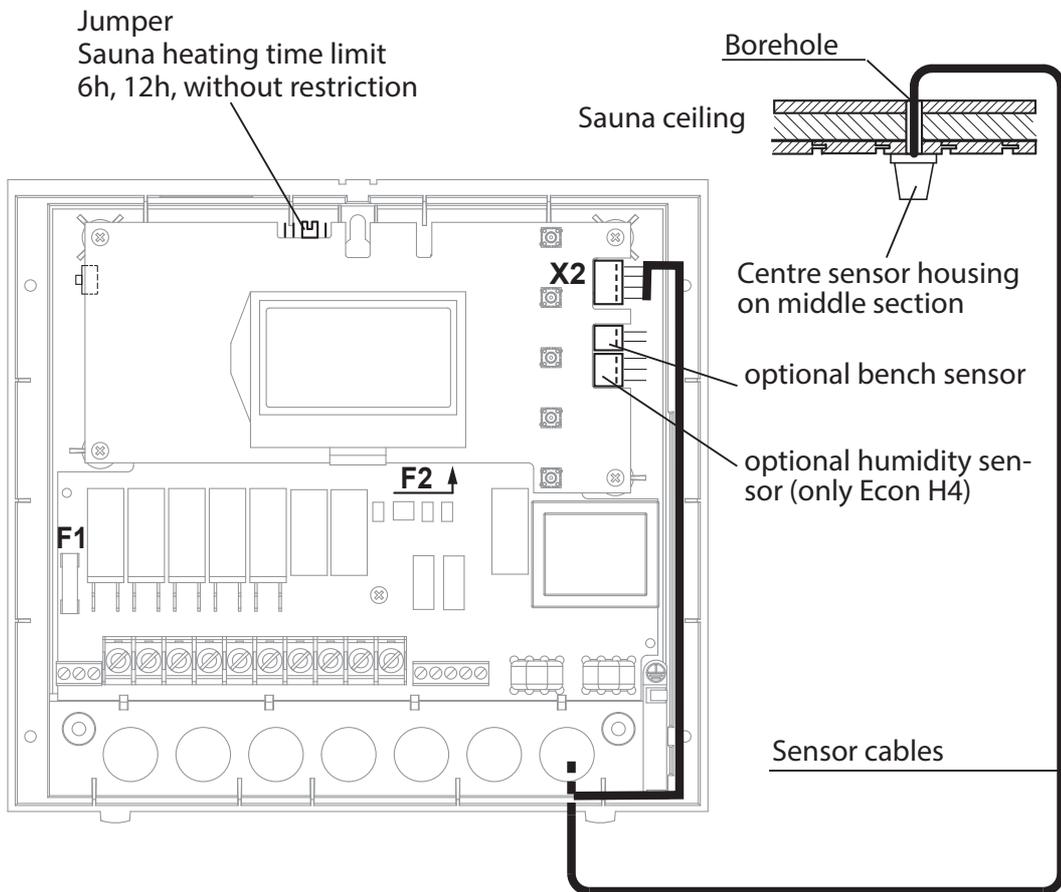


Figure 11

Caution! If the lines on plug X2 are confused, this can trigger F2 and damage the unit (Replacement, see paragraph "Replace device fuse")

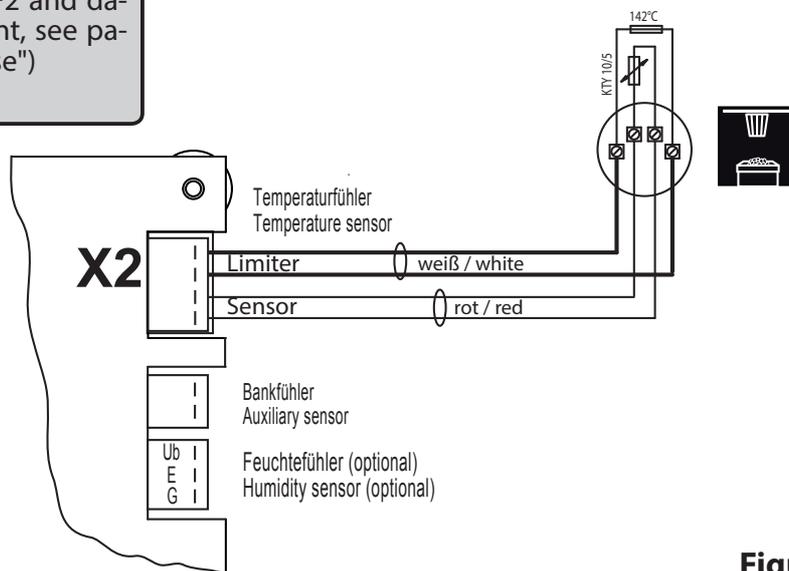
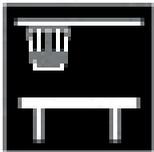


Figure 12

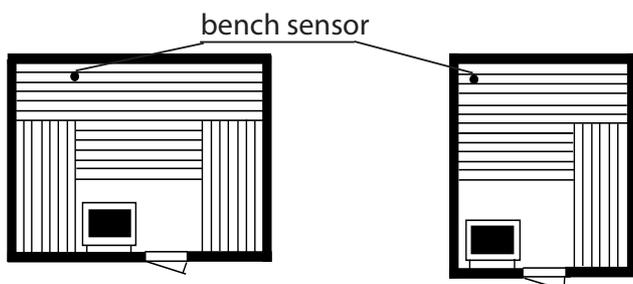
temperature fuse must be checked for short circuits. To do this, release one of the white lines in the sensor housing. The respective error message appears in the display.



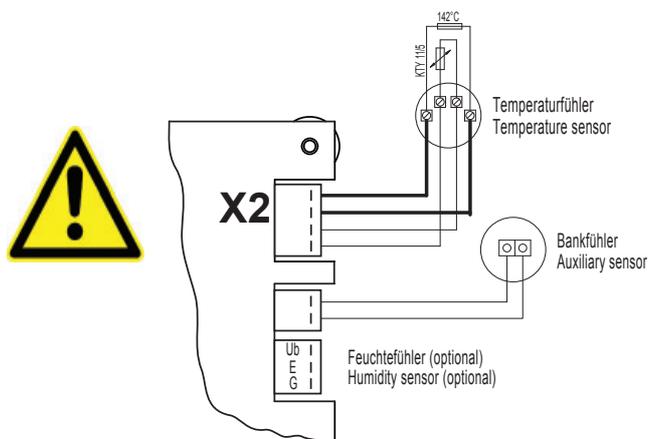


Installation of the optional second temperature sensor (bench sensor)

Installation place: The bench sensor shall be mounted to the ceiling over the rear wall bench opposite to the heater as described in the installation of the bench sensor.



The bench sensor is connected with a 2-core silicone cable from the sensor pcb to the terminals on the right-hand side of the main board of the sauna controller (X2), as shown below.



If the sensor is connected correctly, the control unit shall automatically recognise it once the mains voltage has been switched on again.

By faults of the second sensor the following error messages will be displayed:

„**Sensor break**“ - interruption of the sensor circuit (e.g. faulty contact).

or

„**Sensor short**“ - short circuit of the sensor

In this case, the sensor must be checked by a specialist and replaced if necessary. At room temperature 20 °C, the sensor has approx. 2 kΩ resistance.

In order to keep on operating your sauna cabin despite the second sensor fault switch the unit from power supply, disconnect the cable connection to the second sensor and restore the power supply.

Once the problem has been solved, the control unit shall recognise the sensor after it has been re-connected and the mains voltage has been switched on again

Electrical connection

The electrical connection may only be done by a certified electrician in compliance with the guidelines of the local utility company and the VDE.

In general, there may be only one fixed connection to the network; therefore equipment should be provided that makes it possible to disconnect the system with all poles from the network with a contact opening width of minimum 3 mm.

All electrical installations and all connection lines that are installed inside the cabin must be suitable for an ambient temperature of at least 170 °C.

The power supply line is run to the control unit and connected to the power input terminals.



Connecting the sauna heater

Install the sauna heater and the vaporizer in front of the air intake according to the manufacturer's installation instructions.

Run the silicone line through the ductwork to the power unit and connect it to the appropriate terminals as directed in the wiring diagram.

Note: If there are no empty tubes, drill a hole next to the vent inlet opening and feed the stove supply line(s) to the outside through this hole to the respective terminals on the control unit. The silicon line needs to be hidden to protect it from external influences. Therefore use a suitable cable duct or a PVC tube to guide the line to the load unit.



Connecting a load switch (LSG)

For more details, please refer to the assembly instructions of the power switching device (LSG).



Connecting the vaporizer

Also use a silicon connection cable 4 x 1.5 mm² to connect the vaporizer.

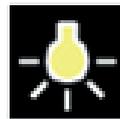
For test purposes, the vaporizer is activated for 1 min when the system is switched on. It is only activated again when the cabin reaches a temperature that is 10K below the target temperature.



Warning: When connecting the vaporizer make sure it is correctly attached to the water bath (WB) and the water low shutoff (WM). If you switch these connections, you disable the water deficiency function and bypass the thermostat. As a result, the vaporizer will overheat.

Risk of fire!

The control unit can detect water deficit if there is a zero-potential feed at the WM-input.



Connecting the sauna lamp

Only use dimmable lighting and ballasts, because otherwise the lights or the control unit may become damage.

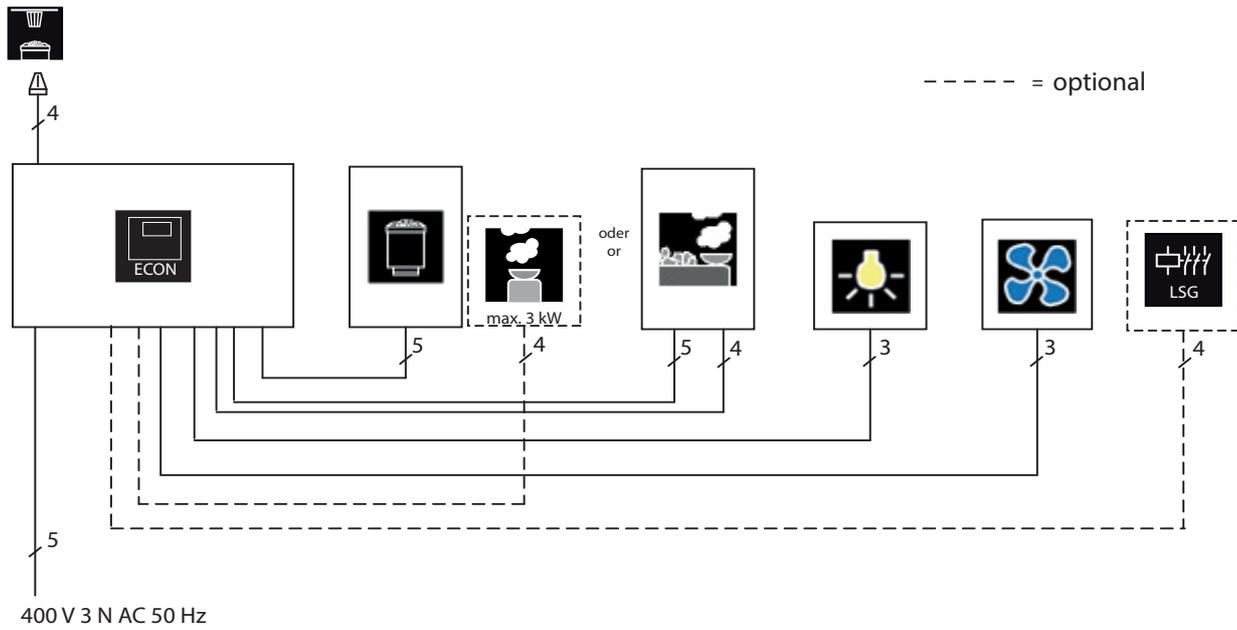
The type of light is recognised automatically, but it can also be defined manually. (See paragraph "Manual definition of the lighting") The sauna light must correspond to the splashwater protection class (IPx4) and must be resistant to the ambient temperature. The sauna light can be mounted anywhere, however never close to the rising flow of hot air from the stove.



Connecting a fan

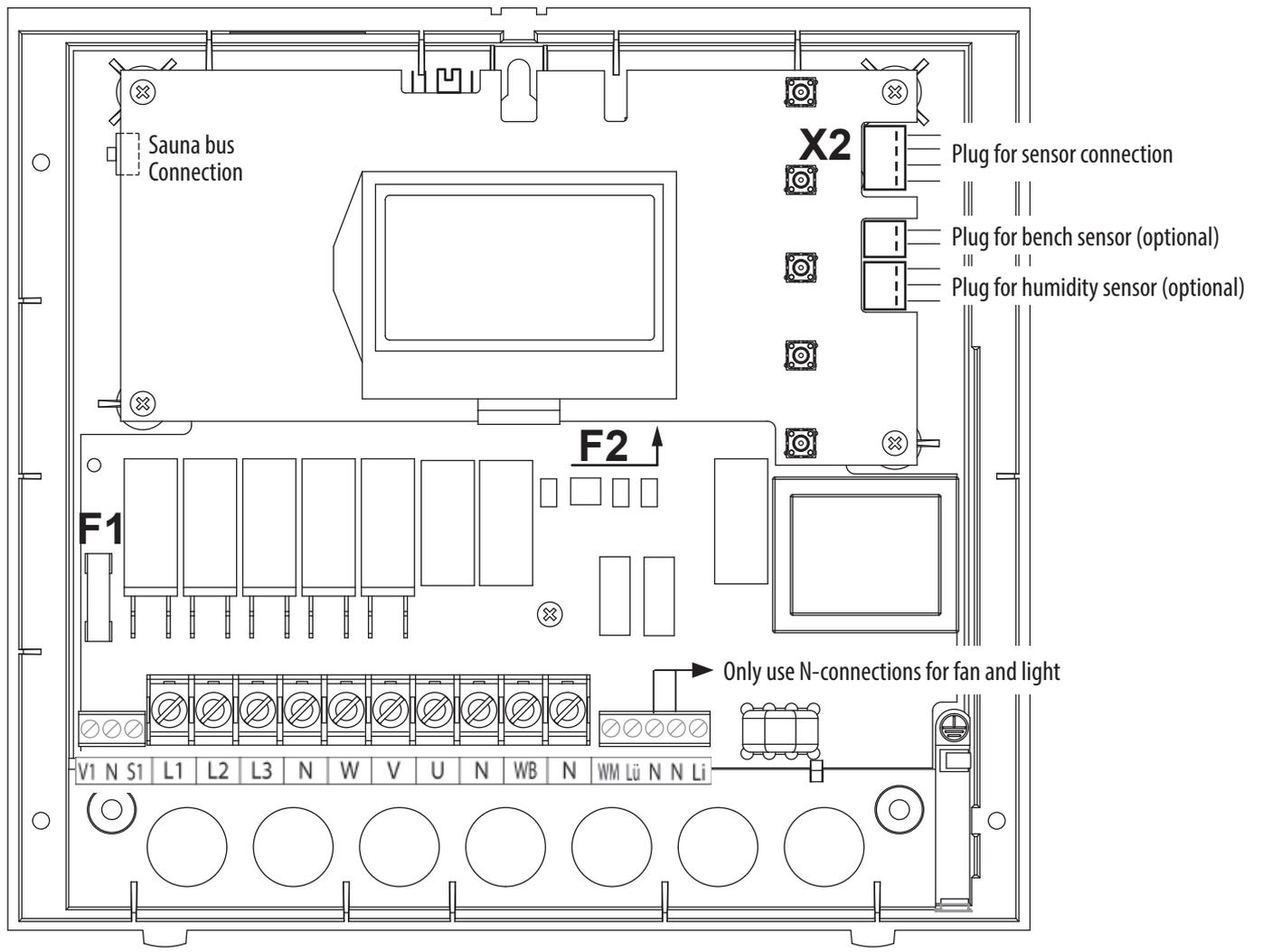
Only use fans whose speed can be controlled via phase control. The fan must have the splashwater protection class (IPx4) and must be resistant to the ambient temperature. The fan can be mounted anywhere, however never close to the rising flow of hot air from the stove and must be positioned as far away as possible from the IR spot (it may not be in the light path of the spot).

Installation diagram

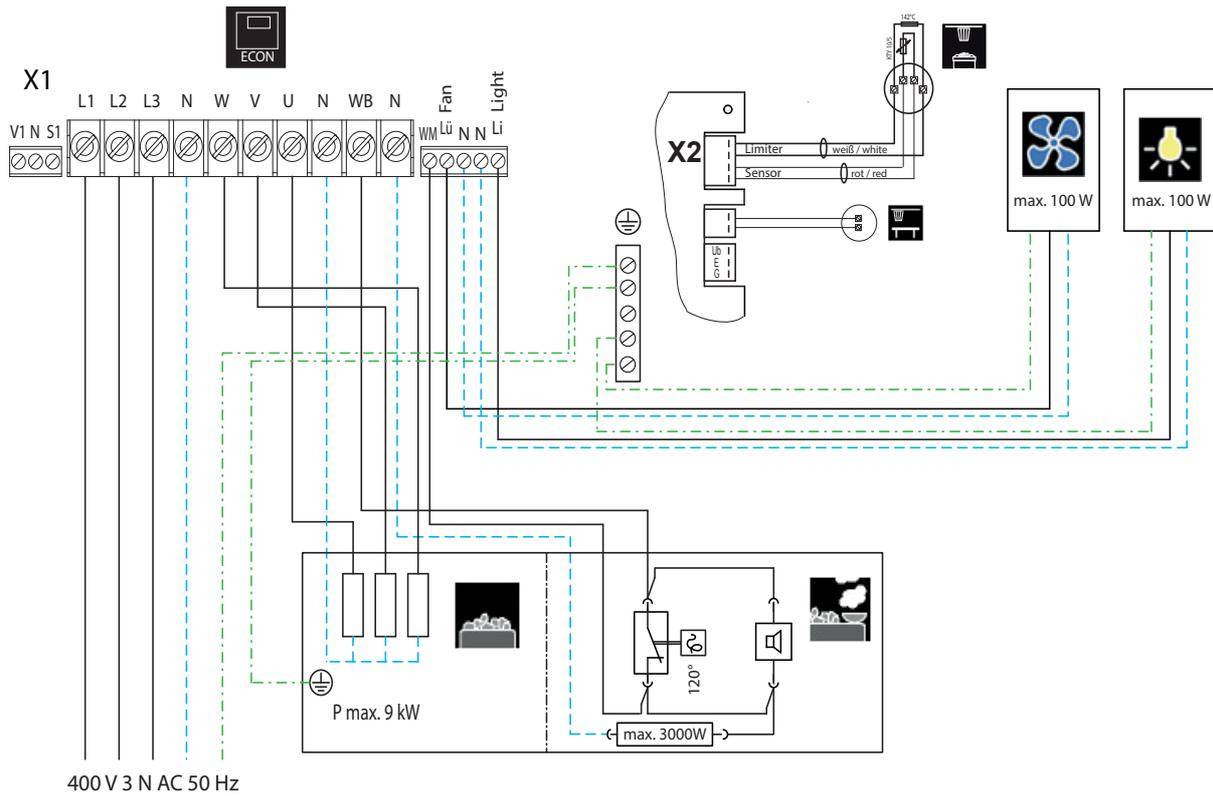


The control lamp for public systems without heat-up time restriction must be installed in the supervisor's room.

Terminal arrangement on the circuit board

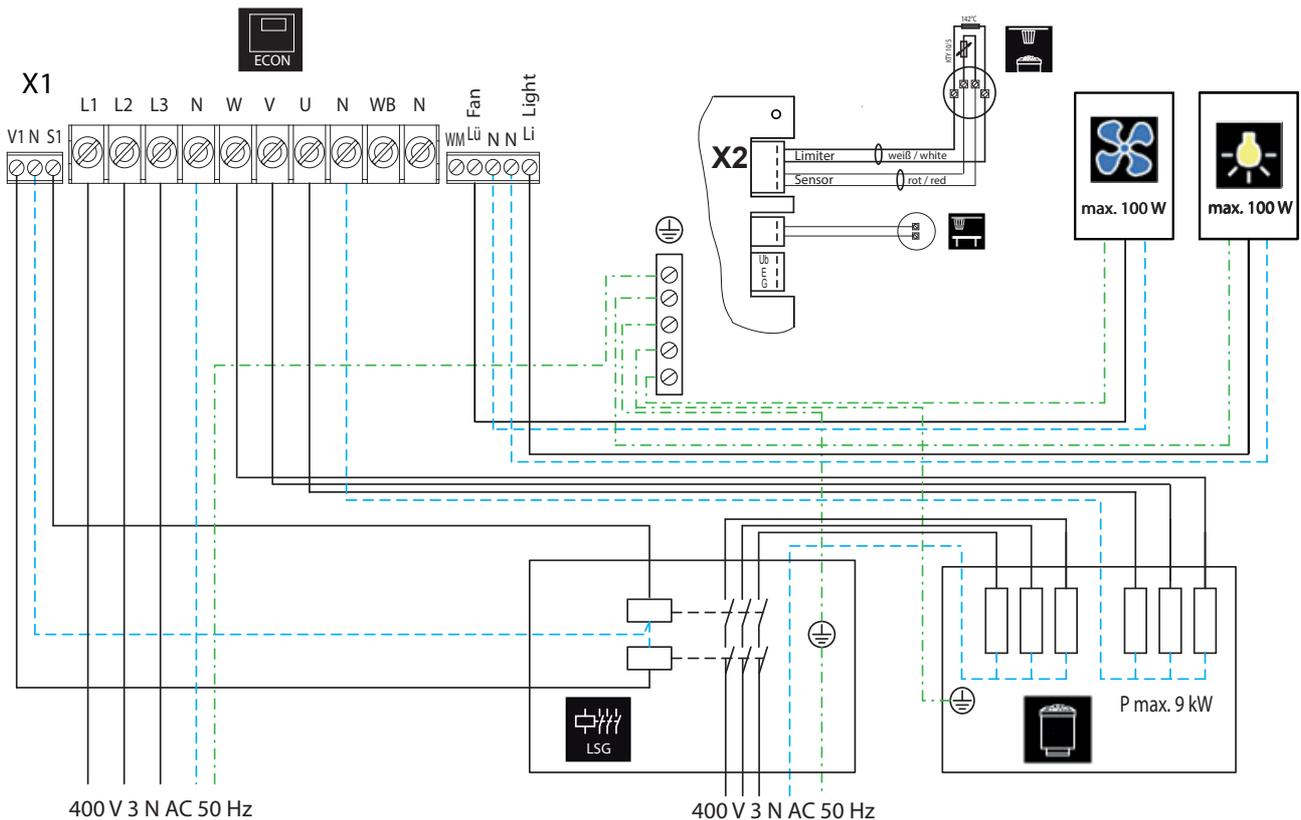


Connecting the sauna heater (max. 9 kW)

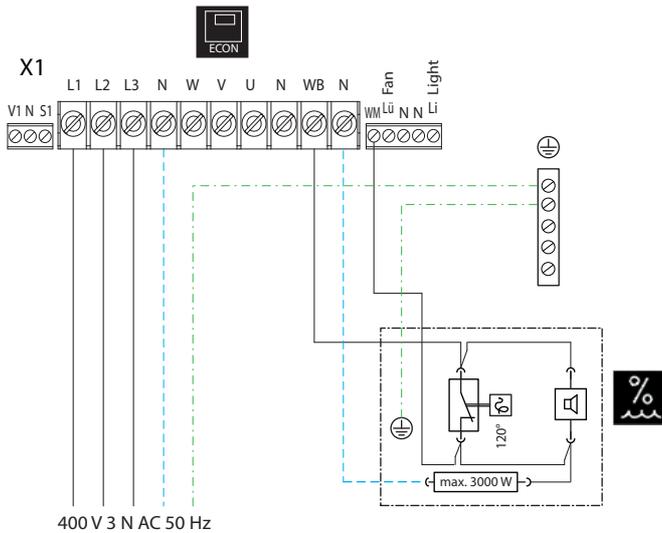


⚠ Caution: Always connect the neutral conductor (N) of the sauna stove. In humidity mode, one phase of the sauna stove is deactivated, i.e. the heating load is not symmetrical. The result is that the neutral conductor is then no longer currentless.

Connecting the sauna heater > 9 kW



Connection of vaporizer



CAUTION:

When the vaporizer is activated, the output "W" from the sauna heater is switched to the terminal "Wb" to the vaporizer. In this case, the sauna heater heats only with two thirds of the power.



Installing the humidity sensor (optional)

1. The humidity sensor is mounted in the centre of the cabin on the side wall opposite the stove at a height of approx. 150 cm.
2. Please see Fig. 12 for the connection sequence of the wires.
3. Please ensure that the connection is made precisely - incorrect connections can cause a fault in the sensor.

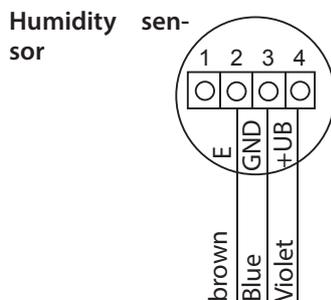


Figure 12

The sensors are connected in the control unit to the terminals as shown (Fig. 13).

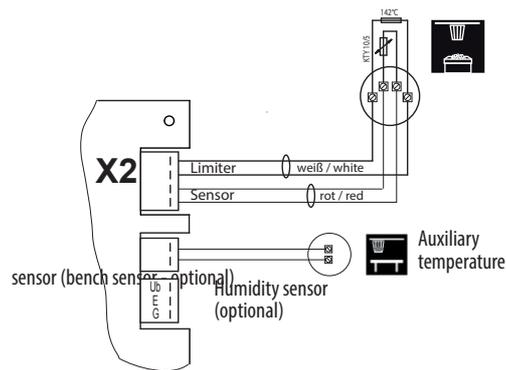


Figure 13

During control via the humidity sensor, the system is controlled via graphs; all values below or on the characteristic curve can be set and used (Fig. 14).

Programmed maximum values acc. to EN 60335-2-53:2012

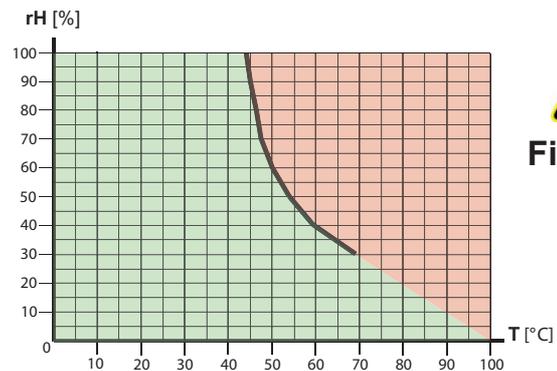


Figure 14

Allowed settings

Non-allowed settings

Assembly of a remote start module

Then insert the sauna bus cable enclosed with the remote start module into the designated sauna bus connection. The other end is inserted into the respective socket in the remote start module. Now mount the remote start module as shown in the enclosed instructions.

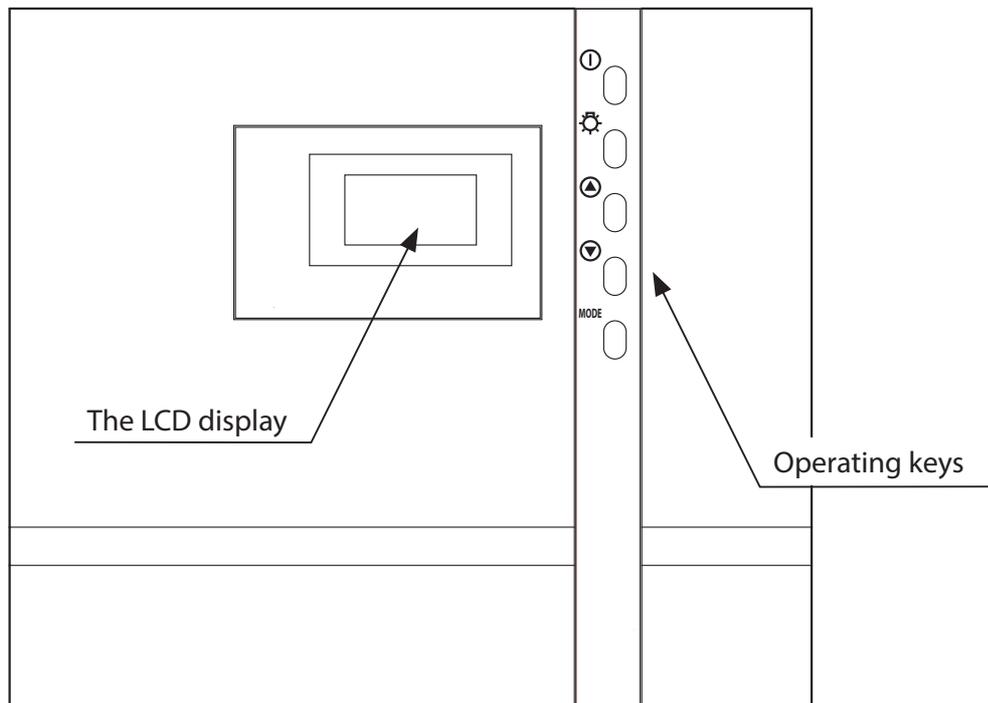
Operation

Once the system has been installed with all components and all covers have been fixed, you can put your sauna unit into operation.

Over the following pages we will show you the options provided to you with the control.

Generalities

The user interface



Operating keys

 = Heating on / off (stand-by)

 = Cabin lighting

 = raise value / next function

 = lower value / next function

MODE = Programming mode

Default display Stand-by

is shown if the system is in Stand-by mode.

The system also returns to this screen from other menu items, if there is no activity for >15 seconds.

🕒 12:00	
Temperatur	30°C
Feuchte	▬▬▬▬
Auto-Stop	5 : 59
Vorwahlzeit	- : -

Default display in operation

is displayed if the system is operational. The system also returns to this screen from other menu items, if there is no activity for >15 seconds.

☀️ 🕒 12:15	
Temperatur	30°C ▬▬▬▬
Feuchte	▬▬▬▬
Auto-Stop	5 : 59
Vorwahlzeit	- : -

Illustration of the heating performance:

During the heating phase the bars behind the temperature display fill continuously.

Once the target temperature has been reached, these bars are displayed as filled.



Energy-saving display

If the unit is not used, it will switch into energy-saving mode.

A moving time is shown after 5 minutes, similar to a PC screensaver. The back light for the display is switched off after an additional 15 minutes.

You can return to the basic standby screen by pressing any button.

The following applies for all settings:

The following is shown in the top area of the display:



The light symbol
(is the light is switched on)



The clock symbol

12 : 00

Current time

Rolling doors

Remote start module recognised
(flashes if contact to the module has been interrupted in the meantime)



Residual heat phase
(after damp operation)



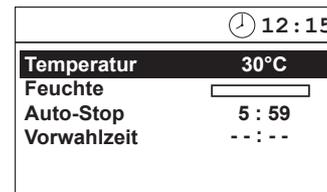
Child lock active



Preselection time

To adapt the individual values to the respective requirements, the **MODE** button must be pressed briefly from the standby screen.

Those parameters that can be changed are shown in black and the required parameters can be selected with the ▲ or ▼ buttons.



Parameters that blink on the display can be changed and are shown in these instructions as displayed.



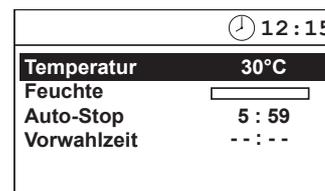
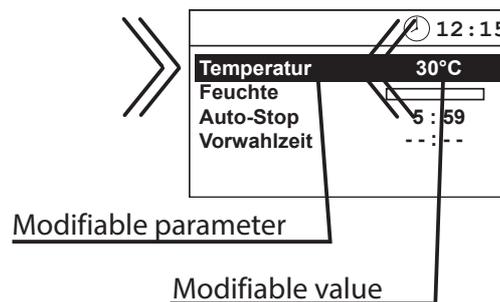
You can reach the parameter level by pressing the **MODE** button.

The name of the parameter is now blinking and the modifiable value is highlighted in black.

The value shown in black can be changed via the ▲ or ▼ button.

All settings made from the standby mode are confirmed by pressing **MODE** for >3 secs and are saved in the device.

The parameter stops flashing and the new value is valid until it is changed again.



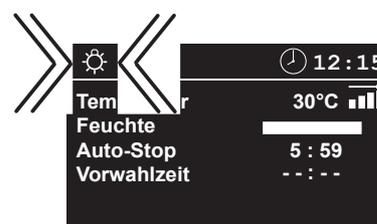
If no button is pressed for >15 secs, the device returns to the basic screen. Any changes made will not be saved



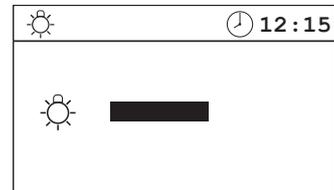
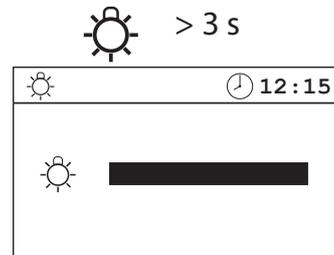
Cabin lighting

Every time that the sauna system is activated, the cabin lighting is automatically switched on. The ☀ symbol is shown at the top left of the display. If the sauna system is switched off, the cabin lighting is also switched off after a delay of 30 minutes.

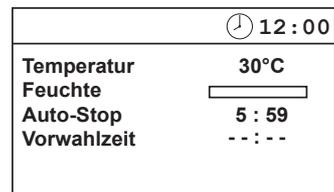
Regardless of the operational state of the sauna system, the cabin lighting can be switched on or off at any time via the ☀ button.



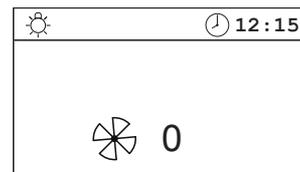
The cabin lighting can be dimmed and saves this value separately for operation mode and standby mode. To change the value for the standby, press the light button in standby for >3s until the light symbol appears with a bar in the display. Now press the HIGH or DOWN buttons repeatedly to set the value. Press the button MODE for >3s to save the value. To set the lighting when the sauna is operational, proceed in the same way even though the sauna is activated (display has a black background). Note: For reasons of safety, the brightness can only be reduced to 25% in standby mode if this is lower than the brightness in operation mode!



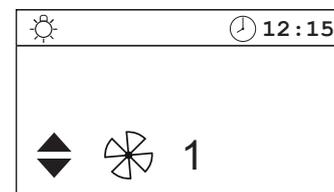
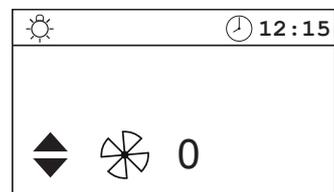
MODE > 3 s



MODE &



MODE

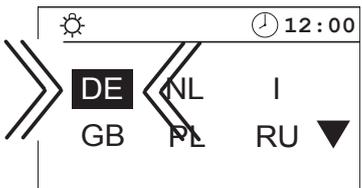
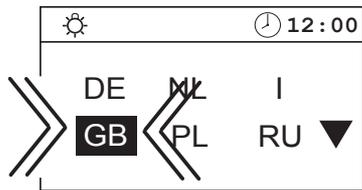


MODE > 3 s



There are four level settings for the fan in operation mode, level 0 corresponds to deactivation of the fan in operation mode. This value is entered when the system is commissioned for the first time, however it can be changed at a later time (see right). In the residual heat phase, a connected fan is always operated at full power.

Initial commissioning



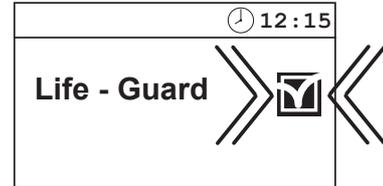
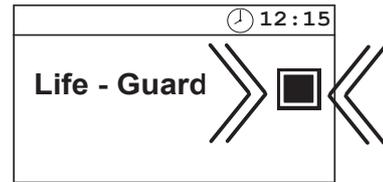
MODE > 3 s



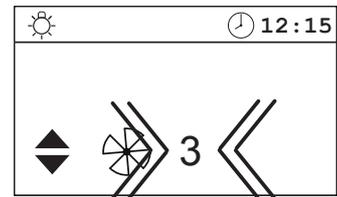
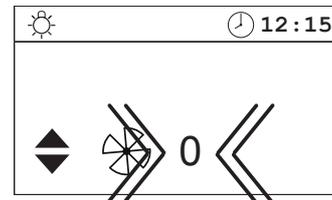
MODE



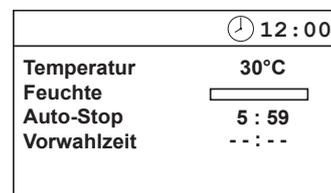
MODE > 3 s



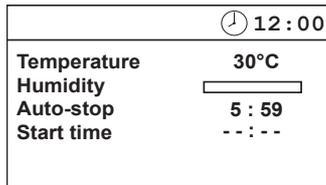
MODE > 3 s



MODE > 3 s



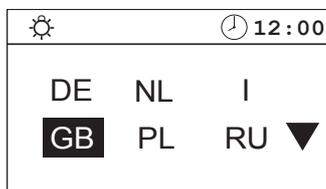
Change language



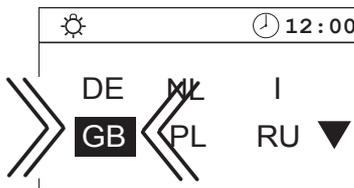
MODE &



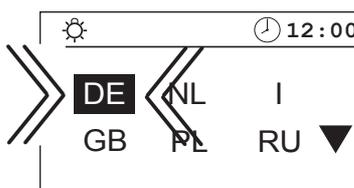
/



MODE



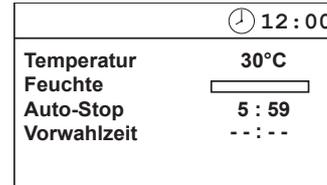
/



MODE > 3 s



Change time



MODE &



MODE



/



MODE



/



MODE > 3 s

Activating the Life - Guard

Life - Guard is a settable relatively short time, e.g. 20 minutes, after which the sauna unit is switched off, except for the cabin lighting. After this time has expired the unit can be switched on again by pushing the **MODE**-button for the set time.

Activate

🕒 12:00	
Temperature	30°C
Humidity	▬
Auto-stop	5:59
Start time	---:--

MODE & ⏏

🕒 12:15	
Time of day	
12:15	

⏏ / ⏏

🕒 12:15	
Life - Guard >> □	

⏏

🕒 12:15	
Life - Guard >> □	

MODE > 3 Sek

🕒 12:00	
Temperature	30°C
Humidity	▬
Auto-stop	5:59
Start time	---:--
Life - Guard	20 min

Deactivate

🕒 12:00	
Temperature	30°C
Humidity	▬
Auto-stop	5:59
Start time	---:--
Life - Guard	20 min

MODE & ⏏

🕒 12:15	
Time of day	
12:15	

⏏ / ⏏

🕒 12:15	
Life - Guard >> □	

⏏

🕒 12:15	
Life - Guard >> □	

MODE > 3 Sek

🕒 12:00	
Temperature	30°C
Humidity	▬
Auto-stop	5:59
Start time	---:--

Life Guard deactivated

Activate / deactivate the child lock

If the child lock is activated (the key symbol is visible in the top section of the display) only the cabin lighting can be switched. All other buttons are without function. The child lock can be activated / deactivated in Stand-by as well as in operation. The unit can still be switched off when in operation.

Activate

Stand by

🕒 12:00	
Temperature	30°C
Humidity	▬
Auto-stop	5:59
Start time	---:--

Betrieb

🕒 12:15	
Temperature	30°C
Humidity	▬
Auto-stop	5:59
Start time	---:--

⏏ & ⏏ > 3 Sek

🕒 12:00	
🔑	Temperature 30°C
	Humidity ▬
	Auto-stop 5:59
	Start time ---:--

🕒 12:15	
🔑	Temperature 30°C
	Humidity ▬
	Auto-stop 5:59
	Start time ---:--

Deactivate

🕒 12:00	
🔑	Temperature 30°C
	Humidity ▬
	Auto-stop 5:59
	Start time ---:--

🕒 12:15	
🔑	Temperature 30°C
	Humidity ▬
	Auto-stop 5:59
	Start time ---:--

⏏ & ⏏ > 3 Sek

🕒 12:00	
Temperature	30°C
Humidity	▬
Auto-stop	5:59
Start time	---:--

🕒 12:15	
Temperature	30°C
Humidity	▬
Auto-stop	5:59
Start time	---:--

Switching on the sauna unit

🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--



🕒 12:15	
☀️	
Temperatur	30°C 📶
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--

Activation of the sauna system with Life-Guard

🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--
Life - Guard	20 min



🕒 12:15	
☀️	
Temperatur	30°C 📶
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--
Life - Guard	20 min

The sauna stove heats up normally, without Life-Guard time. For activation of the function Life-Guard.

Deactivation of the sauna system in Finnish mode 2

🕒 12:15	
☀️	
Temperatur	30°C 📶
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--

Auto-Stop-Time / 🏻

🕒 12:00	
☀️	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--

MODE

🕒 12:15	
☀️	
Temperatur	30°C 📶
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--
Life - Guard	20 min

After expiration of the "Life-Guard" - time the sauna heater is switched off and the entire display blinks.

🕒 12:15	
☀️	
Temperatur	30°C 📶
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--
Life - Guard	20 min

Restart

MODE

🕒 12:15	
☀️	
Temperatur	30°C 📶
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--
Life - Guard	20 min

or switch off the system



Note:

In the Life-Guard mode, no changes can be made to the temperature or humidity if the device is operational (active heating).

🕒 12:00	
☀️	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5:59
Vorwahlzeit	--:--

Individual Settings

The following are options for adapting the control systems to your individual needs. The various parameters can be changed in standby or in operation mode and the changes are saved in the device. Changes made in operation mode are implemented immediately.

Cabin temperature

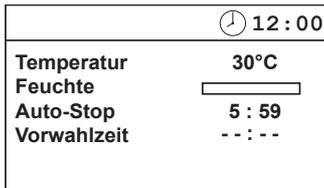
Setting range:

Dry sauna operation 30 - 115°C

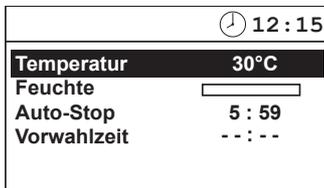
Humidity mode 30 - 70°C

In Stand-by

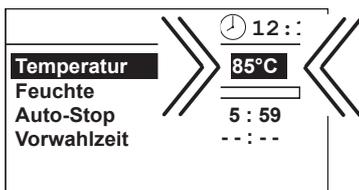
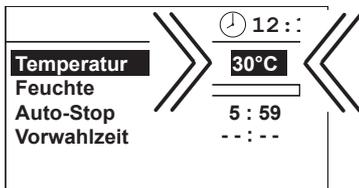
In operation



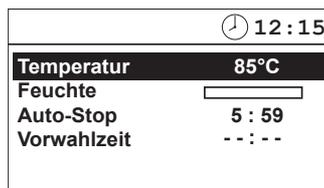
MODE



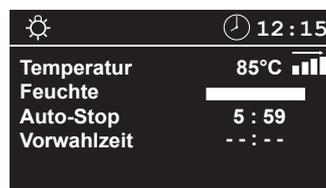
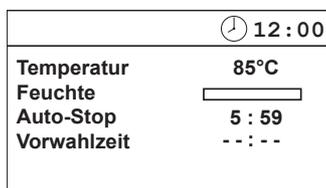
MODE



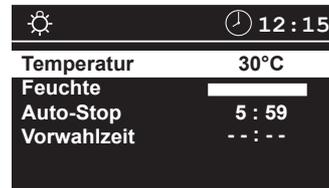
MODE > 3 s



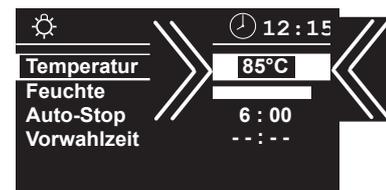
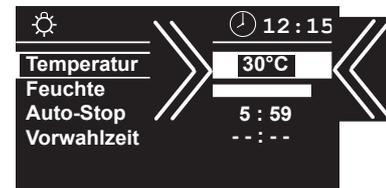
15 s / 🔌 > 3 s



MODE



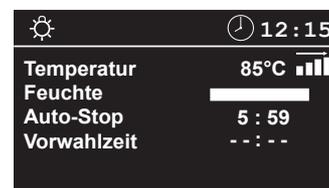
MODE



MODE > 3 s



15 s





Humidity mode for time steps (without humidity sensor)

A prerequisite for humidity mode is the connection of a suitable vaporizer device up to max. 3 kW at 230 V AC. The control system "clocks" the vaporizer depending in the set humidity target value.

Note: When the vaporizer is activated, the stove only heats with two phases, i.e. one of the switching phases is switched to the vaporizer. In symmetrically wired stoves (same heat output per phase) only 1/3 of the heat output of the sauna stove is switched off. This firstly protects the user against excessive temperatures and also limits the switch output to 3 kW per phase.

The humidity to be achieved is strongly dependent on the geometry of the sauna cabin, the sauna heater used and the vaporizer power. Therefore, you will have to find your own personal climatic zone. Always select the temperature first (from 30 to 70°C) and then the humidity.

When the stove and vaporizer are set to the optimum to the sauna cabin, the humidity values in the table can be reached during a 100% activation period.

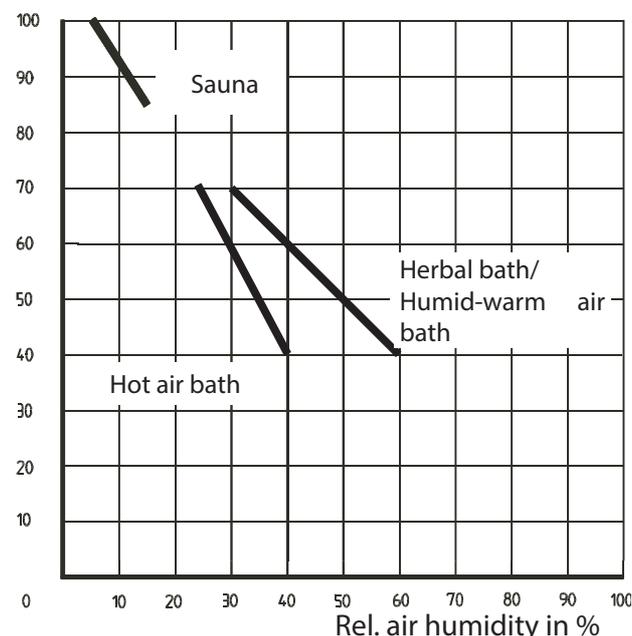
Temperature	Rel. air humidity
60 °C	50%
50 °C	60%
40 °C	70%
30 °C	80%

The achievable values lie above the values that are actually required. Therefore reduce the values after the heat-up phase. Please note that the cabin temperature is at its highest directly below the cabin ceiling, although the relative air humidity is low here. The relative air humidity increases in line with the sinking temperatures from the cabin ceiling to the cabin floor.

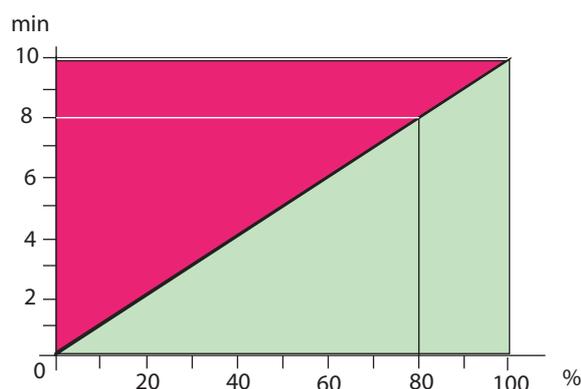
The following diagrams show

you the temperature values via the relative air humidity for the most common sauna shapes and comfort zones.

Temperature in °C



The humidity intensity shown in the display corresponds to the time-proportional vaporizer setting. Therefore the relative air humidity is not pre-selected or shown in the display, instead the activation frequency of the vaporizer is shown as a percentage. This is explained in the diagram.



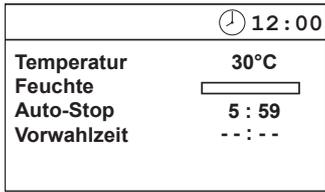
The vaporizer is always controlled if a value is shown in the "humidity" field. Please also note that the vaporizer is only activated after a dry Finnish mode when the temperature in the cabin has dropped to the allowed value.

Humidity intensity (time steps)

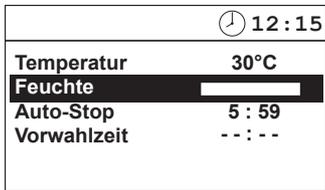
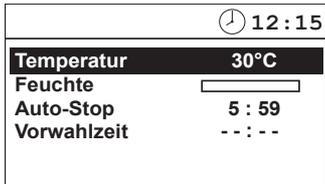
If a value is entered here the sauna unit automatically goes into humidity operation when switched on.

In Stand-by

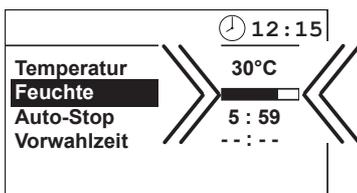
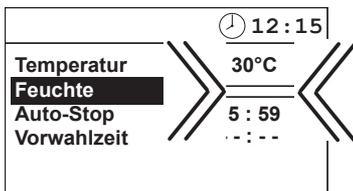
In operation



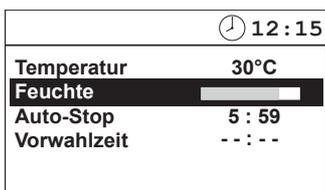
MODE



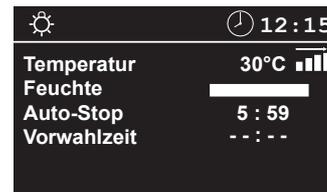
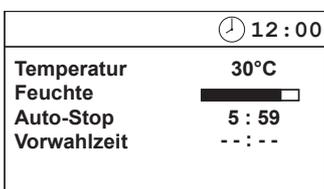
MODE



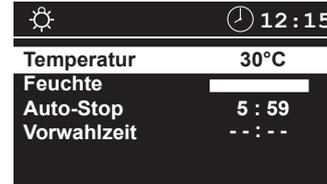
MODE > 3 s



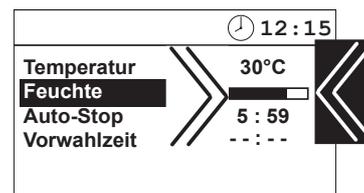
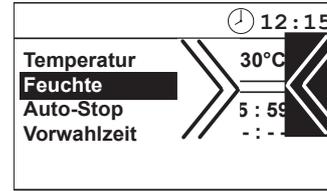
15 s / [Power Button] > 3 s



MODE



MODE



MODE > 3 s



15 s





Humidity mode for connected humidity sensor

Humidity intensity: If a value is entered here the sauna unit automatically goes into humidity operation when switched on.

In Stand-by

🕒 12:00	
Temperatur	30°C
Feuchte	0%
Auto-Stop	5:59
Vorwahlzeit	--:--

MODE

🕒 12:15	
Temperatur	30°C
Feuchte	0%
Auto-Stop	5:59
Vorwahlzeit	--:--



🕒 12:15	
Temperatur	30°C
Feuchte	0%
Auto-Stop	5:59
Vorwahlzeit	--:--

MODE

🕒 12:15	
Temperatur	30°C
Feuchte	0%
Auto-Stop	5:59
Vorwahlzeit	--:--



🕒 12:15	
Temperatur	30°C
Feuchte	70%
Auto-Stop	5:59
Vorwahlzeit	--:--

MODE > 3 s

🕒 12:15	
Temperatur	30°C
Feuchte	70%
Auto-Stop	5:59
Vorwahlzeit	--:--

15 s / 🔌 > 3 s

🕒 12:00	
Temperatur	30°C
Feuchte	70%
Auto-Stop	5:59
Vorwahlzeit	--:--

🕒 12:15	
Temperatur	30°C
Feuchte	70%
Auto-Stop	5:59
Vorwahlzeit	--:--

In operation

🕒 12:15	
Temperatur	30°C
Feuchte	0%
Auto-Stop	5:59
Vorwahlzeit	--:--

MODE

🕒 12:15	
Temperatur	30°C
Feuchte	0%
Auto-Stop	5:59
Vorwahlzeit	--:--



🕒 12:15	
Temperatur	30°C
Feuchte	0%
Auto-Stop	5:59
Vorwahlzeit	--:--

MODE

🕒 12:15	
Temperatur	30°C
Feuchte	0%
Auto-Stop	5:59
Vorwahlzeit	--:--



🕒 12:15	
Temperatur	30°C
Feuchte	70%
Auto-Stop	5:59
Vorwahlzeit	--:--

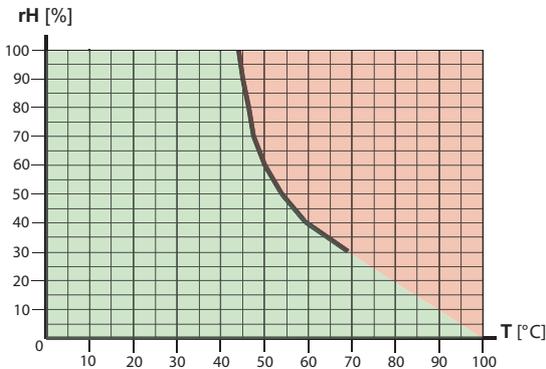
MODE > 3 s

🕒 12:15	
Temperatur	30°C
Feuchte	70%
Auto-Stop	5:59
Vorwahlzeit	--:--

15 s

🕒 12:15	
Temperatur	30°C
Feuchte	70%
Auto-Stop	5:59
Vorwahlzeit	--:--

The humidity intensity shown in the display corresponds to the relative humidity around the humidity sensor if this is connected. The relative humidity is set or shown in the display. This is explained in the diagram.



The vaporizer is only controlled if a value is shown in the "humidity" field. Please also note that the vaporizer is only activated when the temperature in the cabin has dropped to the set value, if the sauna was previously operated in dry mode.

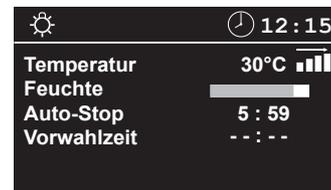
If you have operated the sauna at e.g. 90 °C and then switch to humidity mode, the vaporizer will only be activated if the air temperature has cooled to the maximum allowed value.

Switching off the sauna unit during humidity operation

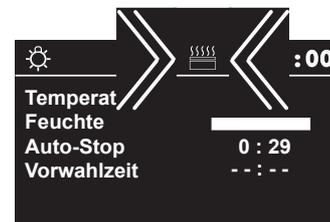
To dry out the sauna cabin after the humidity mode, a residual heat phase is activated after the system has been switched off. The cabin is heated to approx. 90°C for approx. 30 minutes. This is shown in the upper part of the display via the flashing  symbol. Also, an optional fitted ventilator is activated at full power for the duration of the residual heat phase.

The sauna unit automatically turns off once this time has expired.

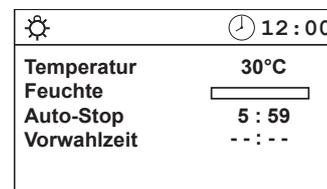
If you want to stop the residual heat phase, press the  button again.

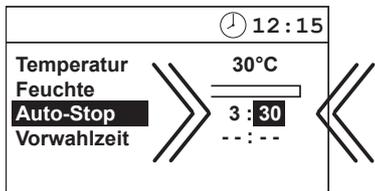


Auto-Stop. / 

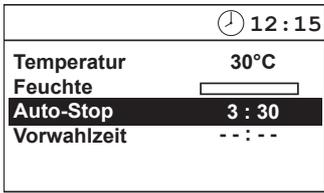


Auto-Stop. / 

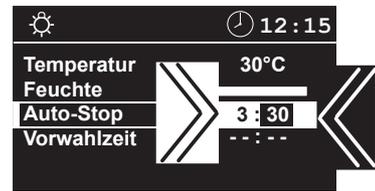




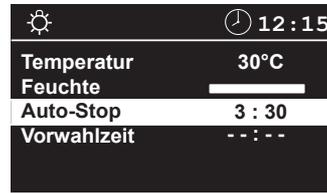
MODE > 3 s



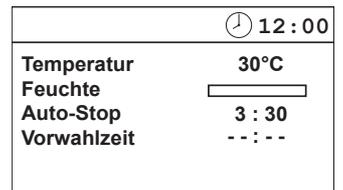
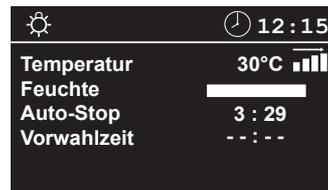
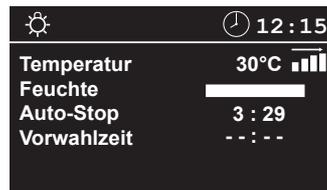
15 s / [power icon] > 3 s



MODE > 3 s



15 s / [power icon]



Preselection time

The preselection time is used to pre-select the activation time of your sauna stove within 24 hours.



Always make sure that there are no objects on the sauna unit before the heating process begins. Risk of fire!!

Please remember however that the cabin must heat up for approx. 40-50 minutes in order to achieve a pleasant climate in the cabin. If, for example, you wish to start with your sauna bath at 18:00 hrs, please select 17:10 hrs as your preselection time.

if the sauna system is to be used without a preselection time, "-- : --" must be entered into the display under preselection time. If "00:00" is entered, the sauna will start at 00:00!

In Stand-by

	🕒 12:00
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --

MODE

	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --



	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --

MODE

	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --



	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	17 : --

MODE

In operation

☀️	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --

MODE

☀️	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --



☀️	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --

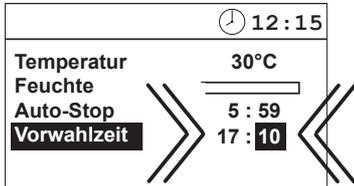
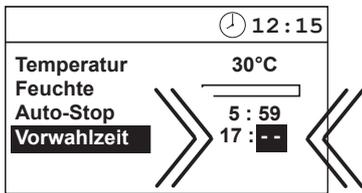
MODE

☀️	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --

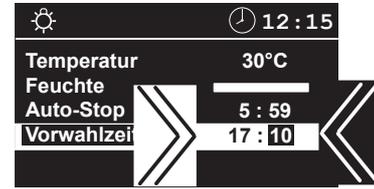
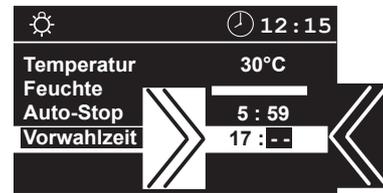
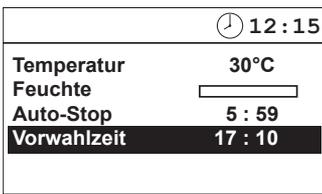


☀️	🕒 12:15
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	17 : --

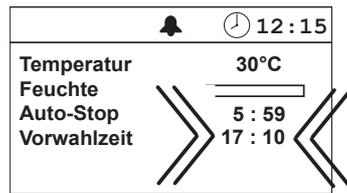
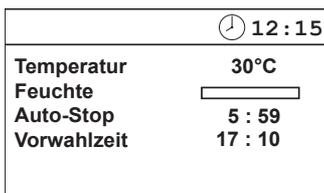
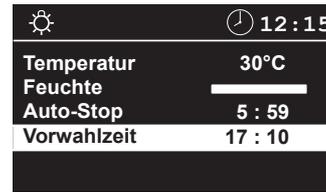
MODE



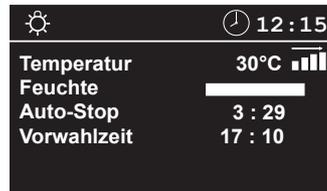
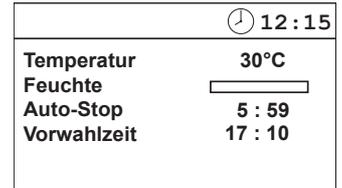
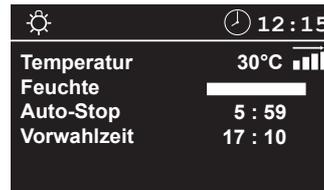
MODE > 3 s



MODE > 3 s

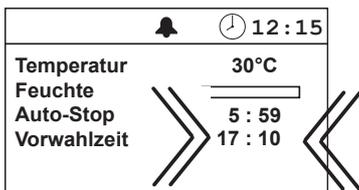


To the preselection time

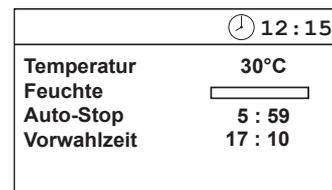
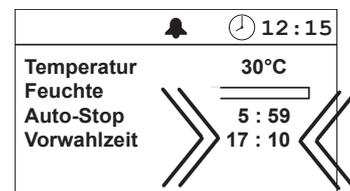
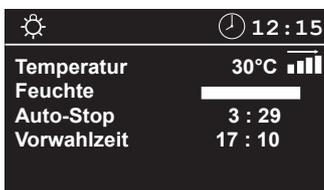


Deactivate the preselection time

Activate the preselection time



To the preselection time



If the sauna system is used without the preselection time, "-- : --" must be entered in the display under preselection time.

Life-Guard

Here you can set the time after which the sauna system should be deactivated and reactivated again for the Life-Guard time by pressing the **MODE** button.

This setting can only be made in standby mode if the Life-Guard function is active.

In Stand-by

🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --
Life - Guard	20 min

MODE

🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --
Life - Guard	20 min



🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --
Life - Guard	20 min

MODE

🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --
Life - Guard	20 min



🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --
Life - Guard	15 min

MODE

🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --
Life - Guard	15 min

15 s



🕒 12:00	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --
Life - Guard	15 min

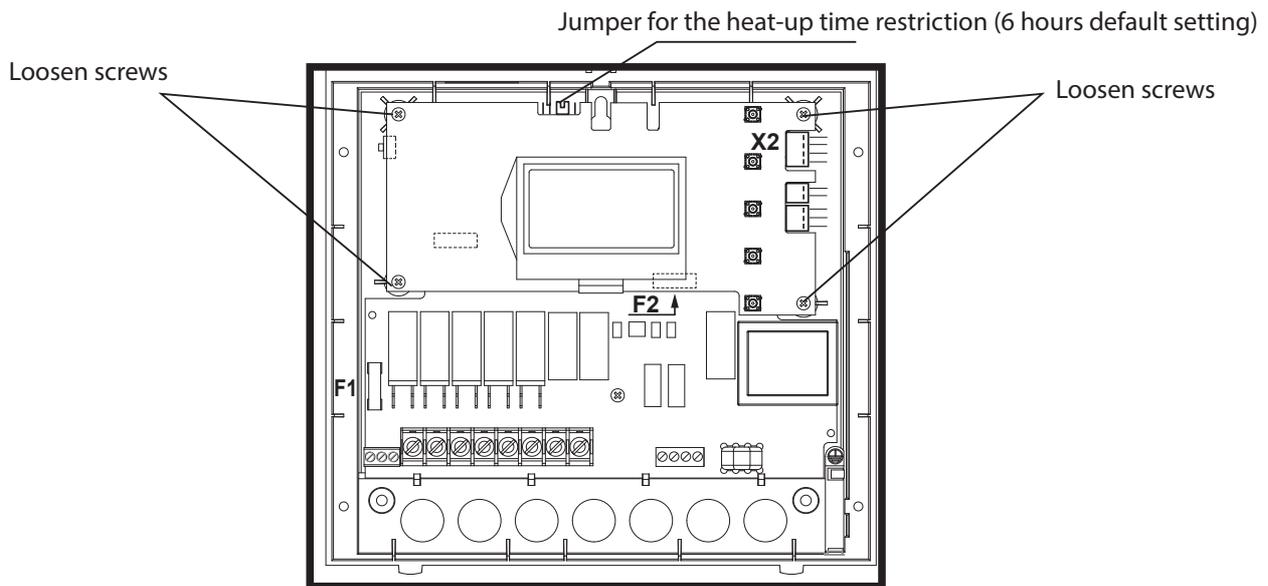
🕒 12:15	
Temperatur	30°C
Feuchte	▬
Auto-Stop	5 : 59
Vorwahlzeit	-- : --
Life - Guard	15 min

Extend heat-up time restriction / replace device fuse

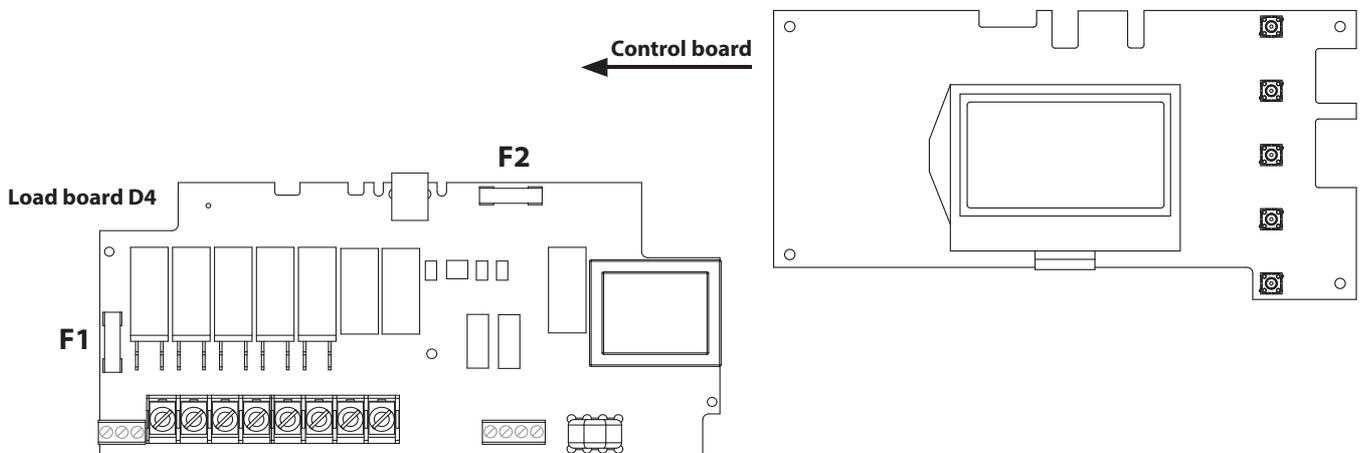
By altering a jumper you can extend the heat-up restriction from 6:00 (standard) to 12:00 hours or "indefinite". Please note that extensions are only allowed in certain commercially operated sauna systems.

 Only allow a specialist to carry out this work. Before working on the open control unit, disconnect all poles from the mains. (Switch off the master switch, or trigger the FI switch). **Risk of an electrical shock!**

Loosen the four screws on the opened unit that hold the circuit board.



- | | | |
|--------|---|---|
| Jumper |  | 6:00 hours heat-up time restriction (default setting) |
| Jumper |  | 12:00 hours heat-up time restriction |
| Jumper |  | without heat-up time restriction (set auto-stop to - - : - -) |



Unit fuses

F1 = T 2A Fuse electronics primary and light and fan

F2 = T 315 mA Fuse of the electronics secondary

Error messages

The control unit continuously monitors the sensor for short circuits and interruptions. At the same time, the system checks to ensure that there is enough water in the vaporizer tank.

The error messages appear as follows:

Display	Cause	Remedy
 12:00 Sensor - break	= interrupted room sensor circuit The temperature sensor (PTC) is faulty, or the line to the temperature sensor is interrupted.	Arrange for a specialist to check the lines and PTC. PTC at 20°C approx. 1.9 kΩ replace if necessary.
 12:00 Sensor short -circuit	= short-circuit in the room sensor circuit temperature sensor (PTC) is faulty, or the line to the temperature sensor has a short circuit.	Arrange for a specialist to check the lines and PTC.
 12:00 Thermal fuse	= interrupted limiter circuit The temperature fuse (142°C) has triggered or the line to the temperature fuse is interrupted.	Arrange for a specialist to check the lines and temperature fuse.
 12:00 Bench Sensor - break	= interrupted bench sensor	Arrange for a specialist to check the lines and PTC. PTC at 20°C approx. 1.9 kΩ replace if necessary.
 12:00 Bench Sensor - circuit	= short circuit bench sensor	Arrange for a specialist to check the lines and PTC. PTC at 20°C approx. 1.9 kΩ replace if necessary.
 12:00 humidity sensor-circuit	= short circuit in the humidity sensor circuit	Arrange for a specialist to check the lines and sensors.
 12:00 Water shortage	= lack of water There is no more water in the vaporizer tank	Refill water.



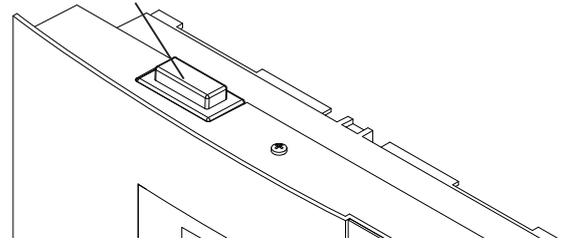
Caution, there are hot parts in the tank. Large quantities of steam may be created when filling the tank with cold water. Risk of scalding!

If no water is refilled, the system will completely switch off after 2 minutes. To restart the system, it first needs to be switched off via the  button, the vaporizer tank needs to be filled and then the system should be started as usual.

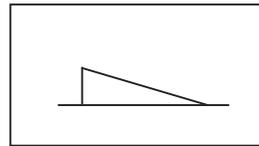
The device „Switch-off“ switch

You will find the rocker switch on the top side of the control unit. You can completely disconnect the control unit from the mains using this switch.

Switch-off by ECON control units

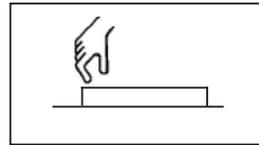


Switch-off



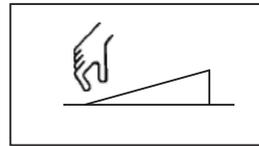
Unit turned on
(default Position I)

Press the switch on the left side of the rocker to the first latch (**switch setting 0**). The switch will be in the middle position. The unit is now completely switched off (disconnected).



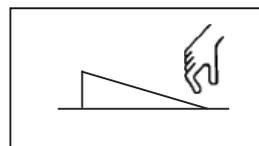
Unit fully switched off
Position 0.

To turn the light on in the cabin while the unit is still disconnected push the left side of the rocker to the second latch (**switch setting II**).



Light switched on;
Unit switched off.
Position II.

To make the unit ready for operation, switch back to the initial position (**switch setting I**). The unit will return to stand-by mode.



Unit switched on.
Position I.

Manual specification of the lighting:

The control system recognises inductive loads via a voltage rise and then switches from phase control to phase cut-off. If there are recognition problems, the phase control type can be defined manually.



Only a specialist from an authorised specialist company may carry out this work!

1. Disconnect the lighting from the control system
2. Switch the control system on.
3. Go to the menu for setting the light intensity by pressing the  button for >3s
4. Now you can configure the light output:
 - a. Phase cut-off for capacitive and resistive loads: Press **MODE** +  at the same time, display **R,C** in the display
 - b. Phase cut-off for inductive loads: Press **MODE** +  at the same time, display **L** in the display
 - c. Automatic recognition: Press **MODE** +  at the same time, display **R, C / L AUTO** in the display
5. Save the setting by pressing the **MODE** button for >3s
6. Switch the control system off
7. Connect the lighting again



Holiday home mode

The holiday home mode allows the control system to be blocked so that only the most necessary functions are visible and the language for the menu needs to be selected every time before use.

The holiday home mode is activated and deactivated by keeping the Up+Down buttons pressed whilst switching on via Switch-Off. This setting is saved permanently. When the holiday home mode is active, a house symbol is shown at the position of the child lock key.

The control system functions as follows in the holiday home mode:

- * the language is queried every time the control system is activated or when the system returns from the energy-saving mode
- * preselection time, Life-Guard, auto-stop and child lock are not available
- * the settings menu with the time, language, fan setting and Life-Guard cannot be accessed
- * Only the temperature and humidity (only for H4) can be set, and the light activated

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

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

Service Address:

EOS Saunatechnik GmbH
Schneiderstriesch 1

35759 Driedorf, Germany

Tel: +49 (0)2775 82-514

Fax: +49 (0)2775 82-431

servicecenter@eos-sauna.de

www.eos-sauna.de

WARRANTY

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

Manufacturer's guarantee:

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

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

Always include the completed warranty certificate when returning equipment.

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

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

Equipment commissioning date:

Stamp and signature of the authorized electrician:

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. Prices and Payment Terms

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

- Disassembly/assembly 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 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 make the replacement parts necessary for the service available 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.

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 Warranty

The manufacturer's warranty 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 assembly instructions and instructions for use.

- The warranty period shall commence from the date on which proof of purchase is provided and shall be limited, in principle, to 24 months.
- Warranty services shall be performed only if the proof of purchase relating to 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 indicated together with the designation and a meaningful description of the fault.
- This warranty shall cover defective equipment parts, with the exception of normal wear parts. Wear parts shall include, among other things, light sources, starters, gas or oil pressure dampers as well as acrylic glass panes, tubular heating elements and sauna heater 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 assembly and installation work, including 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 specialist trader responsible and shall be exclusively handled via the latter.

The manufacturers General Terms and Conditions of Business, as amended, shall apply in addition to the foregoing terms and conditions of service.