

STE Steam Generator Control

STE-INFACE-V2



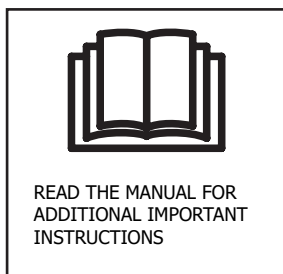
Thank you for your purchase of STE Steam Generator Control Unit!
Please read the manual carefully before using the steam generator control.

Not for use in the USA, Canada and Mexico.

ENGLISH

Table of Contents

Introduction	3
Installing the control unit	4
ON/OFF Mode	5
Standby Mode	5
Temperature Setting	6
Session Time Setting.....	6
Key Lock	6
Up and Down Buttons	7
Celsius / Fahrenheit	7
Heating Element (HEE) Reset	7
Remote Control ON (Rem ON)	8
Demand Button	8
Switching Between Different Modes	8
Maintenance	9
Decalcification	9
DIP Switches in the Steam Generator PCB	10
Troubleshooting	11
Error codes	11



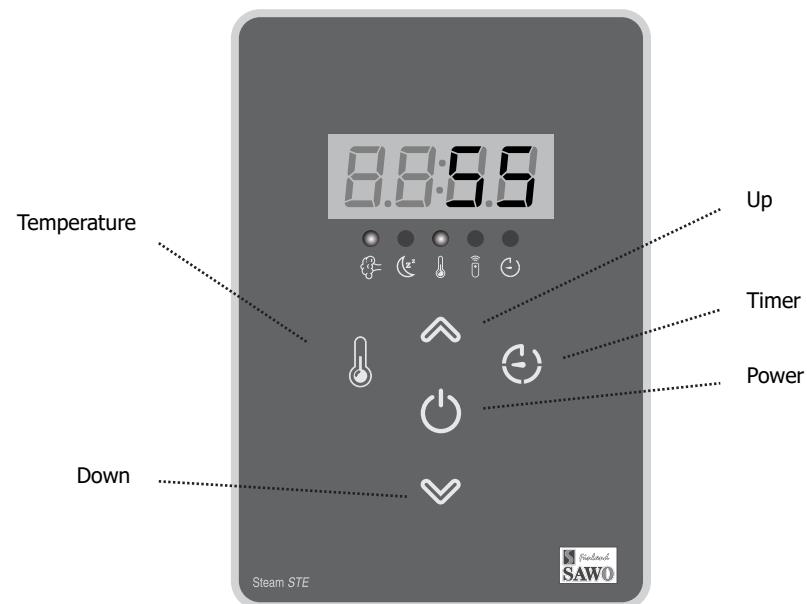
Introduction

There are three different operation modes in the unit: OFF, ON and Standby. The user can easily switch between different modes, making the steam bathing more convenient with less energy consumption.

To use steam room the control unit needs to be in the ON mode. In the ON mode, the steamer is active, the temperature in the steam room will be kept in the preferred, set temperature, with occasional discharge of steam.

However, if the steam room is not used constantly, the generator can be set to Standby mode. The water in the tank and the steam room are kept warm, with minimal energy usage. The generator is able to produce steam shortly after the unit is switch back to ON mode for the convenience of the users.

More details about the different modes and how to move between them can be found in the text and graph following.



Installing the control unit

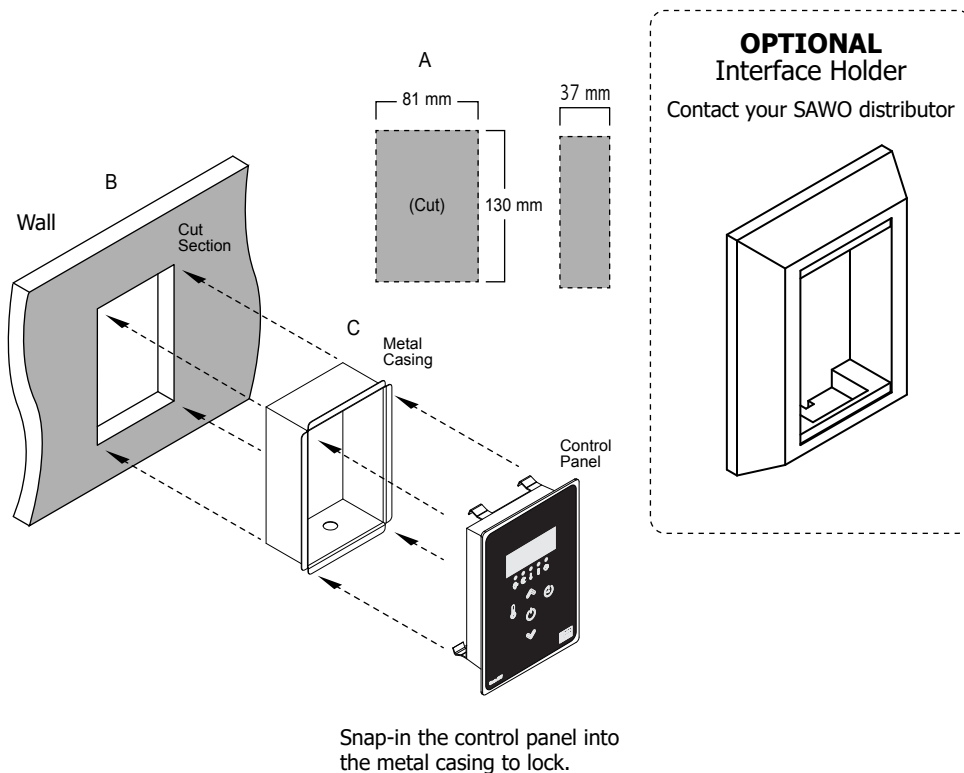
SAWO Steam Control sets the temperature of your steam room. Mount the steam control unit on an accessible area outside the steam room. It is recommended not to place the steam control near to showers or similar wet places.

Never attempt to modify or to fix the steam control. Ask your licensed technician or your nearest service centre for repair.

Before installation mains supply of the generator must be switched OFF from the circuit breaker.

NOTE!

If the control is attached to a concrete wall, provide an interface holder or equivalent to surface mount the control into it.



ON/OFF Mode



When the power switch of the steam generator is turned "ON", the software versions of the control board and the user interface will be displayed for 1 second each. Then the control unit will go to "OFF" mode. In the "OFF" mode, the display is colon (:).

ON Mode

Press "Power" button to switch ON the control.

First, the set room temperature is displayed (temperature indicator is blinking). Then the user can change the settings for the temperature and session time. Use the Up and Down keys to increase or decrease the values.

Standby Mode

During the Standby mode, the water in the steam generator tank is kept hot. This minimizes the time to produce steam when generator goes to ON mode next time. The temperature indicator will be blinking until the steam tank temperature is reached.

Standby Mode can be activated by any of the following methods when the control is in ON mode.

1. Short press the Power button.
2. When session time expires.
3. After Remote ON is switched OFF.

In Standby Mode, text "StbY" is displayed alternately showing the remaining standby time. Press the Up and Down button to change the remaining time. If the time is changed during the first 5 minutes after the activation of standby mode, the time will be saved as a new default standby time.

To activate back to ON mode, short press the power button.

Steam room temperature during the Standby can be controlled. User can set desired temperature from 20–40°C.

Temperature Setting



The Temperature button is to select the temperature setting.

When the steam generator is switched ON, the set temperature at the steam room from the previous setting is displayed. It can be changed by pressing Up and Down buttons. Press back the temperature button or if no button is pressed within 5 seconds, setting is confirmed by a beep.

Session Time Setting



If the Timer button is pressed, the remaining session time will be displayed. It can be changed by pressing the Up and Down buttons. Press again the Timer button or if no button is pressed within 5 seconds it will confirm the settings. There will be a beep to confirm. The time set will be saved as the default session time if it was changed within the first 5 minutes from the beginning of ON mode.

The Session Time can be set up to 24hrs. "UNLI" text appears on the LED. This means that the control will be in ON mode all the time until it is switched to Standby mode or OFF mode.

Key Lock



Lock and unlock the key pad by pressing the Up and Down buttons at the same time for more than 5 seconds. A high beep will confirm the activation and the deactivation.

Only the ON/OFF button is usable when the key pad is locked. If other buttons are pressed, "-- --" is shown on the display.

The Key Lock function is set automatically if it was left active during the previous operation.

Up and Down Buttons



Pressing the Up and Down buttons in the settings menu will increase or decrease the displayed value. A value cannot be increased or decreased above or below its maximum or minimum value. A low tone will alarm the user.

The Up and Down buttons are repetitive. Holding the Up or Down button will cause the value to increase or decrease with an increased rate.

If no keys are pressed within 5 seconds, changes in the values are confirmed.

Celsius/Fahrenheit



During OFF Mode, change the temperature setting by long pressing same time the Temperature and Up button. Cel/Fah ON will be displayed to confirm that temperature unit was changed.

Heating Element (HEE) Reset



An HEE Error is caused by a slow increase of the water temperature inside the tank. This may be caused by broken heating elements or thick deposits of sediments.

In OFF mode, long press the Temperature and Down button to reset or clear HEE error.

Use this function after cleaning or replacing heating elements. This will revert the heating elements setting as it was at healthy state.

Remote Control ON (r On)



Remote control ON function is used by connecting the control into a household automation appliance. Light indicator for the remote control will light.

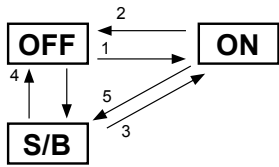
Demand Button (optional)



A separate demand button can be installed on any desired location including inside the steam room. Pressing the demand button will immediately release extra steam for 30 seconds.

Pressing the demand button when the steam generator is in "OFF" or "Standby" mode will switch the control unit into "ON" mode.

Switching Between Different Modes



1. Press Power button or Demand button. (ON mode)
2. Press Power button for more than 3 seconds. (OFF mode)
3. Press Power button in Standby mode. (ON mode)
4. Press Power button in Standby mode for 3 seconds. (OFF mode)
5. Press Power button or when the session time expires (Standby mode)

Maintenance

Decalcification

Tap water contains impurities, for example lime, that can cause calcium deposit and block the internal parts of the steam generator. To prevent this and prolong the lifespan of steam generator, it is recommended to have a water filter and water softener. They are connected to the water source of the steam generator's water inlet.

SAWO Decalcifying Solution can be used for decalcification. Follow these guidelines to perform preventive maintenance of the steam generator.

WARNING!
 Never add the Decalcifying Solution when the steam generator is on. It can cause serious burns!

STE with Advance Control:

1. Remove top cover and level probe. Before opening, make sure that the generator is OFF. Use a flat head screw driver or similar to poke the level probe to dismount. Pour the solution into the water tank. Return the level probe.
2. Turn ON the steam generator and wait until water inside the tank starts to boil. Let the solution boil for 5 minutes.
 - 3.1 If standby mode is available:
 Press shortly "ON/OFF" -button. Steam generator goes to standby mode. After standby time expires, steam generator goes to OFF state. Drain tank manually.

Note: Default standby time is 1hr. If standby time is set more than that, turn OFF steam generator after 1hr and drain tank manually.

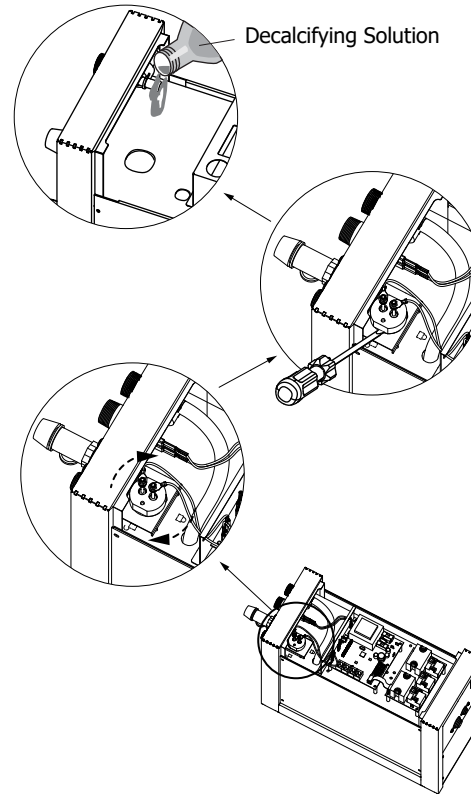
- 3.2 If standby mode is not available:
 Turn OFF the steam generator. Let the solution stay in the tank at least 1h and then drain manually.

4. Fill and drain the tank manually two times more.

Use Decalcifying Solution as follows:

Steam Generator (kW)	Decalcifying Solution (ml)
3-7.5	250
9-15	500

For steam generators in commercial use (over 5 hours continuously daily) additional service plan is recommended twice a year. Please contact your service center for details.

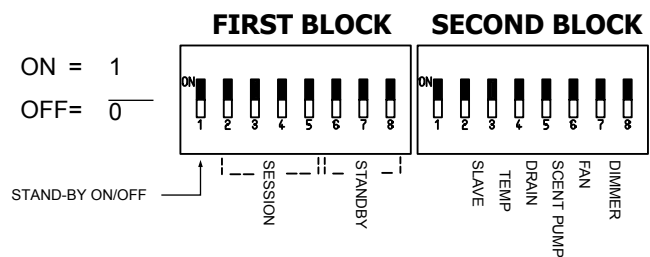


Frequency for decalcification:

Unit dH where 1 dH is 10 mg calcium in 1 liter of water

- < 3 °dH = very soft water, decalcification every 500 operation hours
- 3-6 °dH = soft water, decalcification every 100 operation hours
- 6-9 °dH = hard water, decalcification every 50 operation hours
- 9-18 °dH = very hard water, decalcification every 30 operation hours

DIP Switches in the Steam Generator PCB



Standby time

Standby time can be set according to user preferences by setting dip switches on the power controller board.

Standby Duration Mode	STBY		
	1	2	3
1h	0	0	0
2h	1	0	0
4h	0	1	0
6h	1	1	0
12h	0	0	1
18h	1	0	1
Unlimited	0	1	1
Disable Standby	1	1	1

Naming Slaves

	M	1	2
STEAM GEN. MASTER	0	0	0
STEAM GEN. 1	1	0	0
STEAM GEN. 2	1	1	0
STEAM GEN. 3	1	0	1
STEAM GEN. 4	1	1	1

Maximum Temperature

TEMP	Max. Temperature
0	Max. 50 °C
1	Max. 55 °C

High Temperature in Standby Mode

At default (0), during the Standby Mode, the room temperature is stabilized by decreasing the setting at around 10°C while the steam tank temperature maintains at 87°C.

When High Temperature feature is ON (1), the steam tank temperature is maintained until 87°C.

Session Time

Session time can be set according to user preferences by session dip switches on the power controller board.

Session Time	SESSION			
	1	2	3	4
30min	0	0	0	0
15min	1	0	0	0
20min	0	1	0	0
30min	1	1	0	0
45min	0	0	1	0
1h	1	0	1	0
2h	0	1	1	0
4h	1	1	1	0
6h	0	0	0	1
8h	1	0	0	1
12h	0	1	0	1
18h	1	1	0	1
Unlimited	0	0	1	1
10min	1	0	1	1
10min	0	1	1	1
10min	1	1	1	1

Options

Extra functions are available by setting your Options switch.

Extra Settings	OPTIONS				
	1	2	3	4	5
Standby High Temp	1	0	0	0	0
Dependence Controlling	0	1	0	0	0

Dependence Controlling

The dependence controlling needs to be switched ON when the steam generator acts as an accessory. It will make the steam generator dependent to the main controller system.

An example is that when the steam generator is used to increase the humidity of the sauna. The control of the sauna heater will be the primary host of the steam generator.

Troubleshooting

If an error occurs, the steam generator will be switched OFF. There will be a warning beep to alarm the user every 2 seconds. The code for the error will be displayed blinking on the STE board. See table below.

Please note, only a qualified electrician or maintenance personnel are allowed to make the service operations and repairs!

If error happens in slave, by pressing ON/OFF button, the problematic slave will deactivate. The rest of the steam generator will continue in normal operation.

If error occurred in any of the master or slaves, only the four LED indicators on the power controller board of damaged board will blink, see table below. The LED 1 of other board will blink to indicate state "OFF". The interface will display the code of the slave steam generator alternating with the error code (ex: S1 >>> E1).

The activation and deactivation of master and slave can be set by the dip switch on the power controller board of basic steam generator. See page 10.

Possible errors are:

Code	Problem	Solution	ERROR			
			1	2	3	4
E1	Temperature sensor 1 not connected.	Check the wire between the sensor and the control unit.	0	0	0	1
E2	Temperature sensor 1 short circuit.	If there is no problem with the wires and they are correctly installed, check the sensor.	0	0	1	0
E3	Temperature sensor 2 not connected.	If no problem can be found, contact the retailer.	0	0	1	1
E4	Temperature sensor 2 short circuit.		0	1	0	0
E5	Temperature fuse defect.	Check the thermal fuse if it's not overheated & has continuity . Check the wire between the sensor and the control unit. The reason for it needs to be discovered before using the steam generator again. A new fuse is needed. If no reason for the problem can be found, contact the retailer.	0	1	0	1
E6	Fill failure.	Check that water supply is open and there is enough pressure. Check solenoid valve. Clean level probe. See to it that manual drain is always closed position. If no problem can be found, contact the retailer.	0	1	1	0
E7	Communication failure.	Check the RJ12 cable. If the area where cable is located has many other cables, it can cause connection intermittent. If no problem can be found, contact the retailer.	0	1	1	1
E8	Temperature is greater than the maximum temperature.	Contact qualified electrician or maintenance personnel before using the steam generator again.	1	0	0	0
HEE	Heating Element Error / Slow temperature increase of water inside the tank	Clean or change a broken heating element. Clear error code by resetting. See page 7.				

CE UK CA IPX 4 EAC  T40 

Subject to change without notice.

 **SAWO**

sawo.com
info@sawo.com