

# OPERATION&INSTRUCTION MANUAL

(Steam control panel)


## Cataloge

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## Attention in controller


1. Use soft cloth with a little soap water to clean the controller.
2. Do not use crude cleaning tools.
3. If the decorating crust is damaged, telephone the service electrician to change it.

## Safety and operation information of the controller

 **Warning:** If the installation and operation instruction is not read or understood, do not install or use in case there should be any dangerous installation and improper operation.

Install the controller based on the installation instruction, otherwise, the temperature in the steam room will be too high or it is not heated enough.

If the controller is installed outside the steam room, the temperature sensor must be installed in the bathroom. Operate based on the instruction otherwise the controller may lose control or the bathroom will be overheated.

 **Caution:** Do not install the controller wire in the same wire rabbit with strong electric wire. Do not get close to hot water or steam pipe, otherwise the controller may lose control or the bathroom will be overheated.

## Safety and operation information of the controller

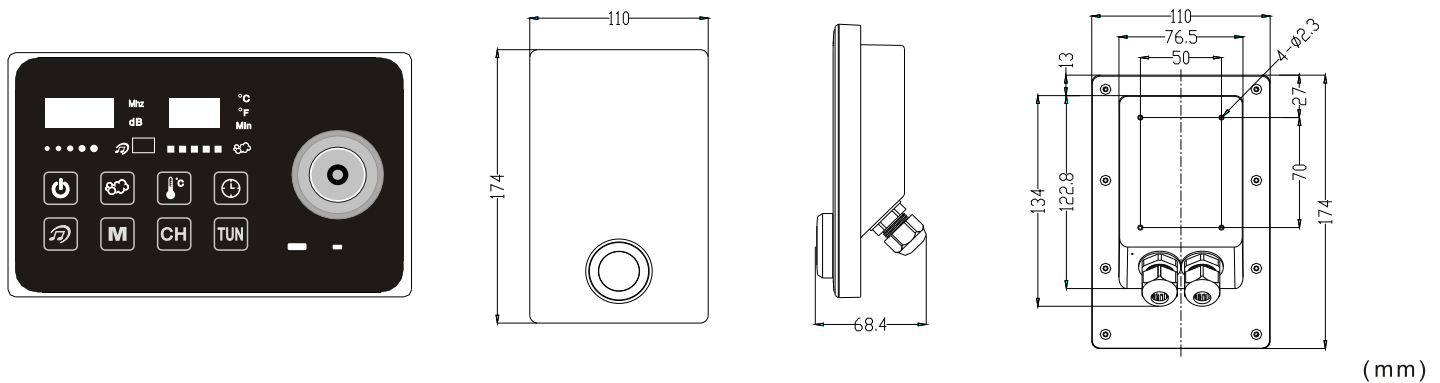
**Important:** Before installing the controller, make sure the steam generator is shut off otherwise the controller may lose control or be damaged.

Do not use controller inconsistent with the steam generator, do not use the controller to operate steam generator of other brands, otherwise the operation may lose control or the machine will be damaged.

The instruction includes important safety, operation and maintenance information. Keep the instruction in the user's hands.

If the steam generator is damaged or can not work normally, do not continue to install or use the controller, otherwise the controller may lose control.

## Blueprint for the control panel



## Installation instruction of controller

**Important:** Before installing the controller, make sure the steam generator is shut off otherwise the controller may lose control or be damaged.

**Step 1: Make sure the installation position of the control panel and take relevant factors into consideration during installation.**

1. The installation height shall ensure convenient use.
2. Keep away from the steam nozzles, and do not expose yourself to the steam nozzles directly.
3. Install it on a vertical wall.
4. The installation position shall ensure convenience for wiring.
5. The control wire from the panel to the steam generator is about 4.2m long, and the wire from the panel to the audio control box is about 3m. Therefore, the distance to the steam generator and audio control box shall be taken into consideration in respect of the installation position of the panel.
6. The installation position and wiring shall be ascertained for the temperature detector.
7. If the wiring length is not enough for the overall equipment, please contact our technical service personnel.

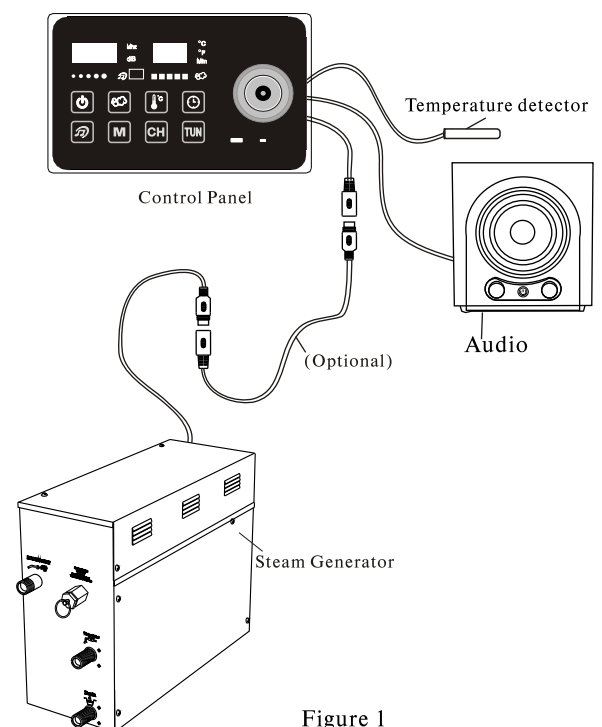


Figure 1

## Installation instruction of controller

**Important:** Do not install the controller and wires under the water pipes or the positions where water reaches easily.

**Step 2: Drill a square hole (125×76.5 mm) on the control panel as illustrated in the figure below (figure 2).**

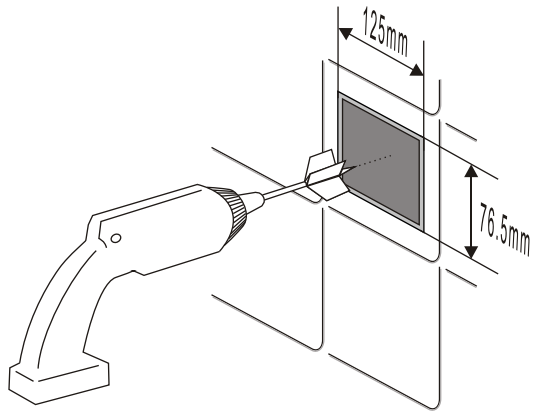


Figure 2

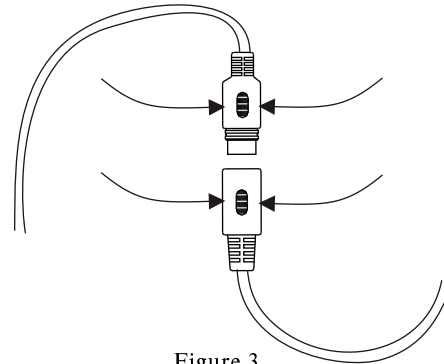


Figure 3

### Step 3: Wiring of the Control Panel

1. Put the controller wire through the square hole as illustrated in the figure below (Figure 2). Connect the wire with the extended wire (if any) and pull it to the steam generator.
2. When connecting the steam control computer wire, firstly ensure the direction (Figure 3) and insert it horizontally in case the contact pins of the computer are damaged. The same operating procedure shall be followed when removing the contact pins.
3. Connect the wire of the temperature detector beforehand.
4. Connect the control wire of the audio control box beforehand.

### Step 4: Installation of Temperature Detector

1. The position of the temperature detector should be within a range of 1.2-1.5m above the ground.  
Try to avoid installing near the steam mouth or the opening side of the steam room door.
2. As shown in Fig.1, drill a small hole of  $\Phi$  10mm in the selected position.
3. Apply a circle of airproof glue along the edge of the back of the detector foundation (as shown in Fig.2).
4. Use a locknut to lock the detector foundation. (As shown in Fig.2)
5. Let the temperature detector go through the back of the detector foundation (As shown in Fig.3)
6. The temperature detector should be installed by extending about 1 cm from the front of the room to make sure the speed and accuracy of temperature control.
7. Apply glue to the back and fix the detector. (As shown in Fig.3)

## Installation instruction of controller

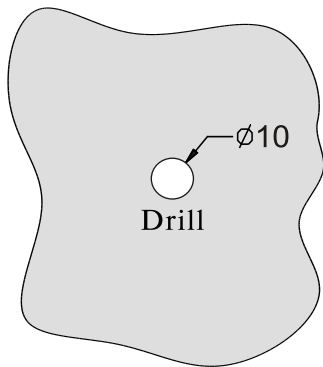


Figure 4-1

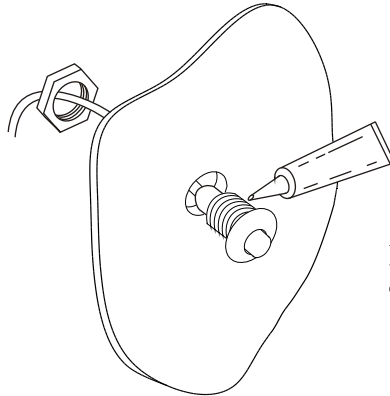


Figure 4-2

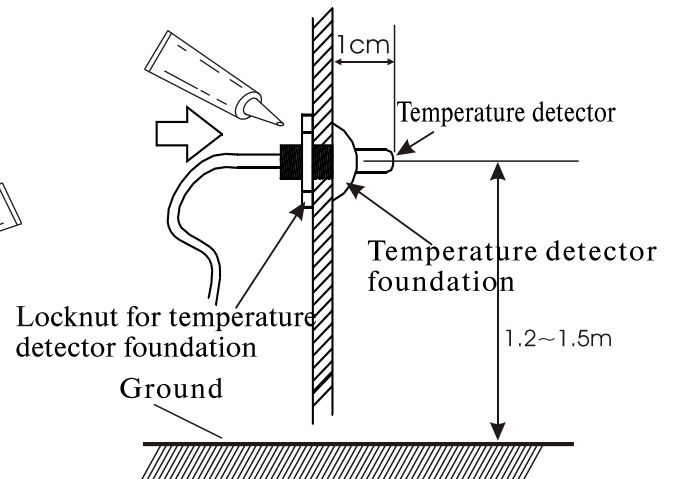


Figure 4-3

Figure 4

### Step 5: Installation of the Audio Control Box

1. Ascertain the installation position of the audio control box according to the control wire length and wiring of the control panel.
2. Pull the control wire of the audio control box of the control panel to the audio control box.
3. Ensure the direction (Figure 3) and insert it horizontally in case the contact pins of the computer are damaged. The same operating procedure shall be followed when removing the contact pins.
4. Ensure the installation position of the loudspeakers according to the wire length and connect the wire to the audio control box.
5. Connect the power cord of the audio control box to the power supply (Figure 5), and confirm the requirements on power supply indicated on the audio control box prior to switching on the power supply.

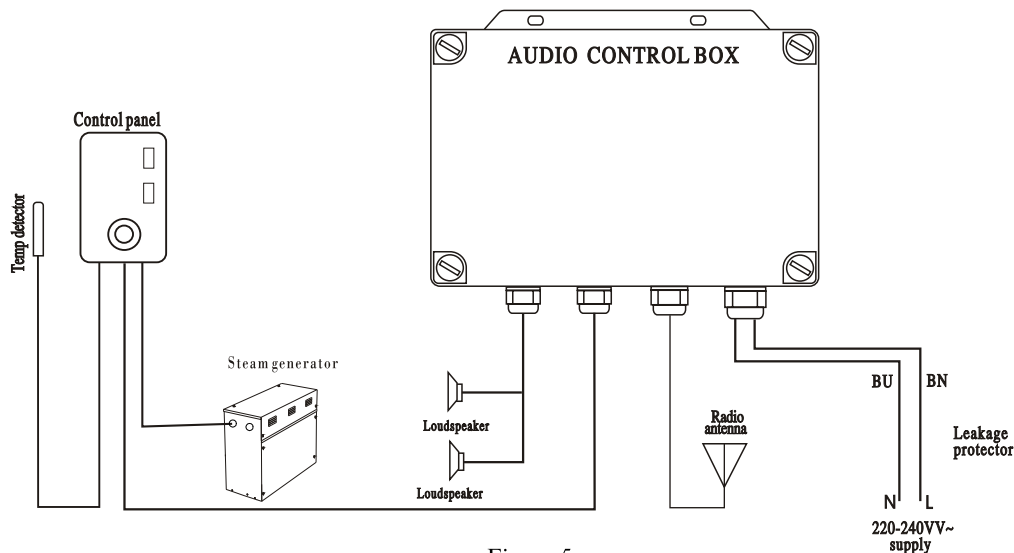


Figure 5

### Step 6: Inspection

1. Inspect whether the power cords of the steam generator and the audio control box are properly connected and whether the power supply meets the requirements.
2. Inspect whether the load wiring is in good condition.

### Step 7: Commissioning Procedure

1. Make preparations prior to commissioning and familiarize the functional operation of S401 (See Page 2 for the functional description.)
2. Switch on the power supply of the steam generator and the audio control box and turn on the water supply of the steam generator. The indicators on the control panel will illuminate after the power supply is switched on.
3. Carry out commissioning for the steam function.

## Installation instruction of controller

- 3.1 Turn on the steam generator, and observe the steam releasing time. Inspect whether the water can be replenished normally, whether the temperature testing is normal, whether the temperature setting is valid and whether the time setting is normal. The steam will be released within 3-5 minutes for the first time. The steaming intensity will weaken during water replenishment; however, it will recover within 10 minutes.
  - 3.2 Observe whether the display on the panel is normal during commissioning.
  - 3.3 Set the Fahrenheit or centigrade display mode and save it.
- ### 4 Commissioning of audio control box
- 4.1 Turn on the radio function and carry out commissioning in respect of tuning, saving of channel settings and volume adjustment etc.
  - 4.2 If radio tuning does not operate properly, the position of the radio antenna shall be adjusted. If the tuning function can not be improved through adjusting the antenna direction, the installation position of the audio control box shall be changed. The installation position of the audio control box shall be near an open place with good radio signal, and the antenna shall face upward and shall not be tied with other wires.
  - 4.3 Commissioning of drainage function: Observe whether the drainage function is normal after turning off the equipment.
  - 4.4 Commissioning of memory function: Upon commissioning of drainage function, switch off the power supply of the steam generator and the audio control box, then switch on the power supply and inspect whether the channel settings and Fahrenheit or centigrade display mode are saved.

### Step 8: Fixation of the Control Panel

*Upon the commissioning in the Step 6, the control panel can be fixed.*

1. Remove the sealing paper (Figure 6). To achieve good adhesive effect, the adhesive face shall be kept clean and dry.
2. Keep the display screen at the position of 12 o'clock, then press the control panel tightly and make it adhere to the wall firmly (Figure 7).

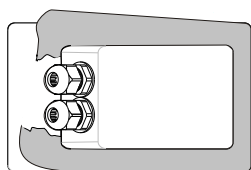


Figure 6

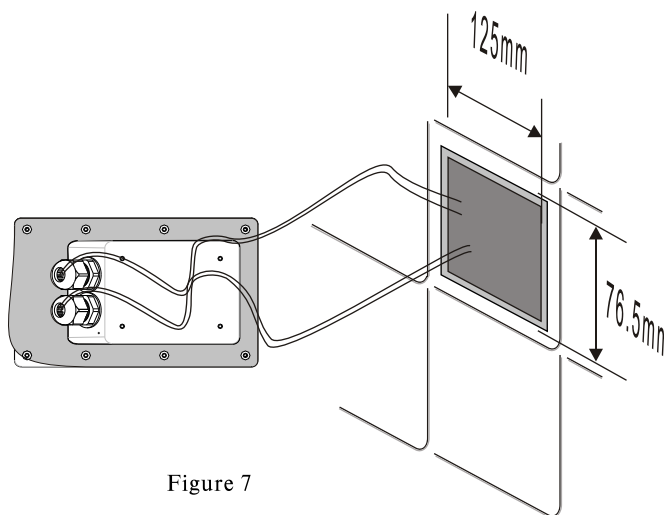


Figure 7

### Step 9: Delivery

Upon the above installation and commissioning (See the Section of Steam Generator for the commissioning of steam generator) and full drainage of the steam generator, the equipment can be delivered to users for use. The users shall be warned not to remove the pressure release valve randomly.

# Operation instruction

The controller is digital temperature control system which can start, stop or pause in the preset time to keep the temperature in the set number.

## I. Use Instructions

1. The panel adopts capacitor touch keys. When installing the panel, do not face to the shower head in case of misoperation of touch panel or panel lockup.
2. The area where the function keys locate is the best touch area on the panel.
3. The panel has anti-splash function. When misoperation is detected (two or more keys are touch simultaneously), the system will not respond. The operation can recover within 1 minute.


## II. Operation Method

### 1. Power

#### (1) Standby


When the power supply is switched on, the power indicator illuminates, and the switch indicator flickers once every 5 seconds.

#### (2) Startup

Touch the key  to start up the equipment, and the digital tube displays the current room temperature. If water is detected in the steam generator upon startup, the water drainage function will be started, then the switch indicator flickers, and the steam function can not be started at this time.

The drainage will stop when no water is detected. If water is still detected upon 3-minute drainage, "E4" failure code will be displayed and the steam generator shall be inspected. Or otherwise, the switch indicator will illuminate constantly, and the steam function can be started normally.




#### (3) Shutdown

When the equipment is switched on, touch the key  to switch off the equipment. When the equipment is switched on, it will switch off automatically if no function is operated within 10 minutes.



#### (4) Drainage

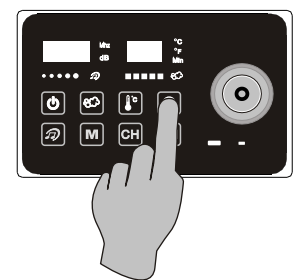
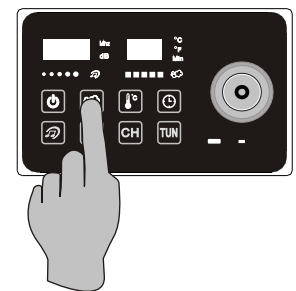
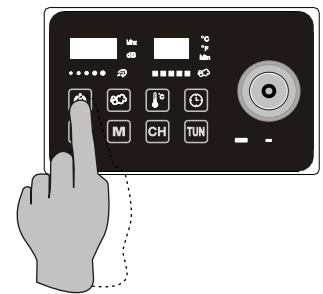
When the system is switched off for 10 minutes, the drainage of the steam generator will be switched on, and the drainage will last 7 minutes. Upon drainage, the drainage valve will be turned on and off at 1 Hz for 5 times in case the drainage valve is blocked by scaled deposit.

### 2. Steam

Touch the key , then the icon  illuminates and the steam bath will be turned on. The default temperature setting of steam is 45°C, and the default time setting is 8 hours. When the system is short of water, the icon flickers. When the steam timing is up or the key  is touched again, the steam bath function will be turned off.

### 3. Steam time setting:


Touch the key , then the digital tube indicates the remaining time for steam, and the icon  flickers. When the remaining time is more than 1 hour, the digital tube indicates the remaining hours, e.g. **5H**. The remaining time for steam can be increased by rotating the switch.




## Operation instruction

It will be increased or decreased by hour if the remaining time is more than 1 hour. The status of steam time setting will be exited if there is no operation for 5 minutes or the OK key is touched. The range of steam time setting is within 1 minute-8 hours.




### 4. Steam temperature setting:

Touch the key , then the screen indicates the current steam temperature, and the temperature icon °C or °F flickers. The steam temperature can be increased or decreased by rotating the switch. The steam status bar indicates the different levels of the steam temperature. The status of steam temperature setting will be exited if there is no operation for 5 minutes or the OK key is touched. The range of steam temperature setting is within 25°C-60°C.


### 5. Change of temperature display mode

Touch and hold the key  for 1 minute, the temperature display mode can be changed between Fahrenheit and centigrade.




### 6. Radio function



Touch the key , then the radio function is turned on, and the radio icon  illuminates. The channel settings and volume saved last time will be kept. The display indicates the current radio frequency. The volume bar indicates the current volume. The radio function can be turned off by touching the key  once again.


### 7. Radio volume adjustment

When the radio function is started, the default setting is volume adjustment if the steam time setting or steam temperature setting is not activated. The volume can be increased or decreased by rotating the switch. The digital tube indicates the current volume, and the volume icon  flickers. The volume adjustment range is within 0-10db.

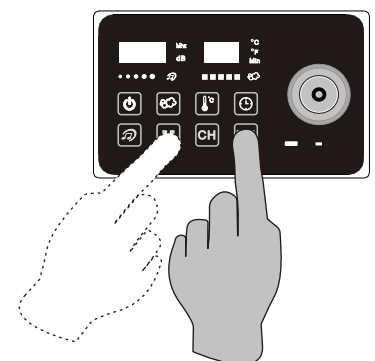
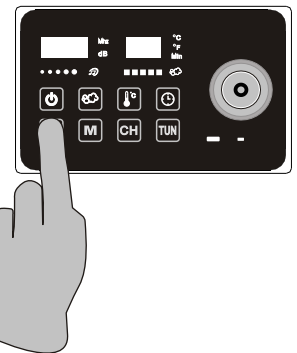
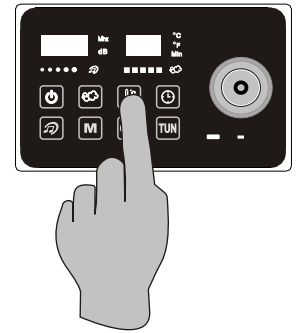
### 8. Tuning

When the radio function is started, touch the key  to enter the radio tuning status, and the icon  flickers on the display. The radio frequency can be adjusted by rotating the switch. Automatic tuning can be activated by touching and holding the key  for 1S. When a valid channel is searched, the automatic tuning stops.

Saving of channel settings: When a channel is searched, touch the key  to save the current frequency on the current channel; touch the key  once again to save the frequency on the next channel. In the same way, different frequency can be saved on different channels, and 10 channels can be saved maximally.

Change of channel: When the radio function is started, touch the key  to change radio channel, and the channel number is indicated on the display.

The available frequency range is within 87.5-108.0M.





# Operation instruction

## III. Failure Alarming Code:

The equipment has failure self-detection function. When a failure is detected, the corresponding failure code will be indicated on the display:


The failure cords and their corresponding failure are as follows:

Failure Code	Failure	Failure Cause	Failure Description
<b>E1</b>	Water level detection failure	A. Steam control wire fails. B. Water level detection circuit fails.	When the system detects the failure of the water level detection circuit of the steam generator, the failure code "E1" is indicated. Please inspect the control wire of the steam generator and the water level detection circuit.
<b>E3</b>	Water inlet time-out failure	A. The main water valve is not turned on. B. Water failure occurs. C. The control system of the water inlet valve fails. D. The water level detection function fails.	When the steam generator is started, the system will turn on the water inlet valve to charge water. If water insufficiency is detected. If water inlet lasts 3 minutes and the water level in the steam generator still fails to reach the normal water level, the failure code "E3" is indicated, and the steam function will be turned off simultaneously.
<b>E4</b>	Drainage time-out failure	A. The control system of the drainage valve fails. B. The water level detection function fails.	When the system is started, the drainage valve will be turned on to discharge water if water is detected in the steam generator. If drainage lasts 3 minutes and water still can be detected in the steam generator, the failure code "E4" is indicated.
<b>EE</b>	Temperature detector failure	A. The temperature detector fails. B. The circuit of the temperature detector fails.	When the temperature detector detects that the ambient temperature is over 120°C or less than -30°C, the failure code "EE" is indicated, and the steam function will be turned off if it is turned on.
<b>EF</b>	Communication failure of the radio board	A. Short circuit or broken circuit of the communication line occurs. B. The communication driving circuit fails. C. CPU I/O port is damaged.	The mainboard communicates with the radio board continuously during normal use. If communication failure lasts 5 seconds, the failure code "EF" is indicated, and the radio function will be turned off. Upon normal communication, the system alarm status is cancelled automatically and the radio function recovers. Please inspect whether the computer wire is connected properly during inspection and repair.

## IV. Technical Parameters

Operating Conditions and Characteristics of the Audio Control Box				
Rated voltage	AC220 V ~ 240V AC110 V ~ 120V (Optional)		Rated frequency	50HZ ~ 60HZ
Withstand voltage constant	>1500V		Rated power	45W
Insulation resistance	>20MΩ		Water prevention level	IPX5
Load Configuration Parameter				
Load type	Nominal load voltage	Nominal load frequency	Nominal load frequency	Others
Loudspeaker	_____	_____	8Ω/10W × 2	_____
Operating Conditions and Characteristics of the Control Panel				
Rated voltage	DC5 V		Rated power	0.5W
Insulation resistance	>20MΩ		Water prevention level	IPX5

### Attachment: Testing method of the drainage valve:

When the equipment is not switched on, press and hold the key  for 3 seconds until the drainage valve is turned on.

The manual is only intended for the installation and operation of S401. As for the installation, commissioning and use instructions of the steam generator, please refer to the user manual of steam generator attached to the equipment. The two manuals constitute complete installation and operation material for the overall equipment.