

Preface

Welcome to use ST30-180 type (automatic) steam generator and select one of these controllers ST-135、ST-135A、ST-135M、ST-135T to control it. The steam generator, which has the reasonable design, stable function and beautiful appearance, uses the international advanced technology. It equips with special room body to form the complete set of sauna, which can relax people's muscle, eliminate fatigue, and excrete the toxin in the body. Sauna can make people refreshed and has the function of health care.

To install 、operate and maintain the machine safely and correctly, please read the instructions carefully and keep it in case.

Please pay attention to these when use it;

• **Old people, pregnant women, the diabetic, the cardiac and the people for the other unhealthy reasons can not use the equipment unless under the guidance of doctor.**

• **Do not smoke, do sports and drink alcoholic drinks when do sauna.**

• **Please leave the steam room as soon as possible when feel uncomfortable, sick or tired.**

• **Please take good care of children.**

• **It is necessary to install a ventilated fan to let in the fresh air.**

Part one models and basic parameters of the controller

1, models, basic parameters and size of appearance in table 1

Table 1

| Model | Power(KW) | Volt/phase number/ampere | Size(length*width*height)(mm) |
|--------|-----------|-----------------------------|-------------------------------|
| ST-35 | 3.5 | 220/1/15.9 | 300×130×230 |
| ST-45 | 4.5 | 220/1/20.4 | 320×130×335 |
| ST-50 | 5 | 220/1/22.7 | 395×135×395 |
| ST-60 | 6 | 220/1/27.3 | 395×135×395 |
| ST-70 | 7 | 220/1/31.8 | 445×165×395 |
| ST-80 | 8 | 220/1/36.4 | 445×165×395 |
| ST-90 | 9 | 380/3/13.6 | 445×165×395 |
| ST-120 | 12 | 380/3/18.2 | 500×200×520 |
| ST-150 | 15 | 380/3/22.7 | 500×200×520 |
| ST-180 | 18 | 380/3/27.3 | 500×200×520 |

2, the basic parameters of controllers and the size in table 2

Table 2

| Model | time (minute) | Range of temperature | Size(length*width*height)(mm) |
|---------|---------------|----------------------|-------------------------------|
| ST-135 | 1~60 | 35℃~55℃ | 100×100×40 |
| ST-135M | 1~60 | 35℃~55℃ | 132×82×26 |
| ST-135A | 1~60 | 35℃~55℃ | 160×100×20 |
| ST-135T | 1~60 | 35℃~55℃ | 190×130×27 |

Part two steam generator and the instructions for pipe installation

ST series steam generator's installation

The generator has been carefully assembled and tested, please fix in accordance with national laws and regulations. And be fixed by the people who has local or national plumber certificate. Turn off all the power in fixing, and make sure that if the type applies for the steam room. Please look at table 3

Table 3; technical parameter

| Model | Maxim space heating(m ³) | Power (KW) | voltage (V) | Phase number | Current (A) | Copper wire No. (mm ²) | Power switch |
|--------|--------------------------------------|------------|-------------|--------------|-------------|------------------------------------|--------------|
| ST-30 | 2 | 3 | 220V | 1 | 14 | 4 | 25 |
| ST-40 | 2.8 | 4 | 220V | 1 | 19 | 4 | 25 |
| ST-50 | 3.5 | 5 | 220V | 1 | 23 | 4 | 30 |
| ST-60 | 4.2 | 6 | 220V | 1 | 28 | 6 | 40 |
| ST-70 | 5.5 | 7 | 220V | 1 | 32 | 6 | 45 |
| ST-80 | 6.2 | 8 | 220V | 1 | 37 | 6 | 50 |
| ST-90 | 8.5 | 9 | 380V | 3 | 14 | 4 | 25 |
| ST-105 | 9.3 | 10.5 | 380V | 3 | 16 | 6 | 25 |
| ST-120 | 10 | 12 | 380V | 3 | 19 | 6 | 30 |
| ST-150 | 12 | 15 | 380V | 3 | 23 | 6 | 40 |
| ST-180 | 15 | 18 | 380V | 3 | 28 | 6 | 40 |

The installation of steam generator

- 1, the steam generator should be fixed in the wall or on the floor firmly, and be stalled near the bathtub or bathroom as close as possible. In the process of fixing, install the machine on a vertical wall, release the two screws on the cover, move the cover and then fix the machine using the holes on the top right and left. Signs should be put in the obvious place and the generator should be put in the flexible place for maintaining. Please refer to the figure 1 to fix.
- 2, **do not install the machine outside, or the place where is wet, hot or the place where is easy for being cold or eroded. Do not install it near paint, thinner, or gas. Install it in the ventilation place.**
- 3, **the generator can only be installed horizontally.**

Pipe installation

Water source pipe and steam pipe should be installed in accordance with national laws

and regulations. The installation should be done before sealing walls.

- 1, inhalant siphon--use DN15 pipe as the link, use a DN15 metal hose connect the machine's intake and the valve of the water supply pipe separately. (Please refer to figure 2)
- 2, steam pipe---steam pipe should use copper pipe longer than DN15 (ferrous metal and galvanized pipe was not allowed to use for it can make the steam room rust and discolor). The length of steam pipe was no more than 3 meters. It should be used for keeping warm if it is longer than 3 meters. (Please refer to figure 3)
- 3, drainage pipe---it is necessary to install a DN15 pipe longer than 15 to avoid the damage when doing drainage.
- 4, steam nozzle---in the steam room, put the decorative pipe over the steam pipe and smear the sealant, and then spin on the nozzle. Do not put forth strength excessively in case of damaging the decorative pipe and steam nozzle. Make sure nozzle point to the floor.

After the in stall, the electrician can continue the wiring.

Warnings:

- If the generator was stalled far from the place where is easy operated, water supply valve should be fixed in the place of easy operation in emergency.
- The pressure of solenoid valve is $2\text{km}/\text{cm}^2$. To avoid the damage of solenoid valve if the water pressure is over high, turn down the inlet valve appropriately or install inlet pressure valve.
- Do not use saddle valve or needle valve in the inhalant siphon. Keep the pipe dredged and clean before connect the last pipe.
- Do not install blocking valve in the steam pipe. The blocks or 'U' shaped channel may result condensate and prevent the circulating. The steam pipe should be a little declining so the condensate can flow to each side.
- To prevent be frozen, the steam generator can not be installed outdoor. The steam generator must be fixed in the place of easy maintaining and the machine should be installed horizontally and keep the arrow up or the machine will not turn on.
- The pipeline must be copper pipe. Do not use plastic, acrylic, plastic pipe or other similar material as the pipe. For the highest temperature of them if no more than 150°C .
- Make sure other pipes are sealed when steam is in, or the steam will damage the machine and other parts of it.
- If the water in the radiator flew into steam room, it can result in scald accident or hurt the building materials for the steam room.

Part three electric circuit installation direction of steam generator

The machine has been carefully assembled and tested; please fix the circuit in accordance with national laws and regulations. And it must be fixed by the people

who has local or national plumber certificate. Turn off all the power in fixing it.

Electric circuit installation of steam generator

- 1, make sure of the right supply voltage (220V or 380V, see the sign), please refer to the materials in the sign or instruction of the machine.
- 2, the request for installing the circuit breaker in the process of circuit installation must be carefully in accordance with table 3. The machine must install earth wire. Please install CFI (international electric principal 280--8).
- 3, select the proper electric circuit trace according to the local request. Please install the socket near the steam generator if it is necessary. The current load of plug and socket should be more than 250V. After the sealing wall, the machine and the controller's wiring can be done.
- 4, release the screw and open the top. Open the power leading-in blind via in the right side of the machine (refer to the figure 4). Peel 5cm length insulation of the machine's three—core cable (220V) (two power wires and one earth wire) or five—core cable (330V) (4 power wires and one earth wire). Connect the earth wire and the yellow and green core wires. Connect the two power cords with the connection port making 'L', 'L', 'N', and 'N' separately or the four power cards with the connection port making "N" "L1" "L2" and "L3". The machine can be turned on after the installation controller.
- 5, the figure is the wiring figure of ST series controller. (Figure 5)

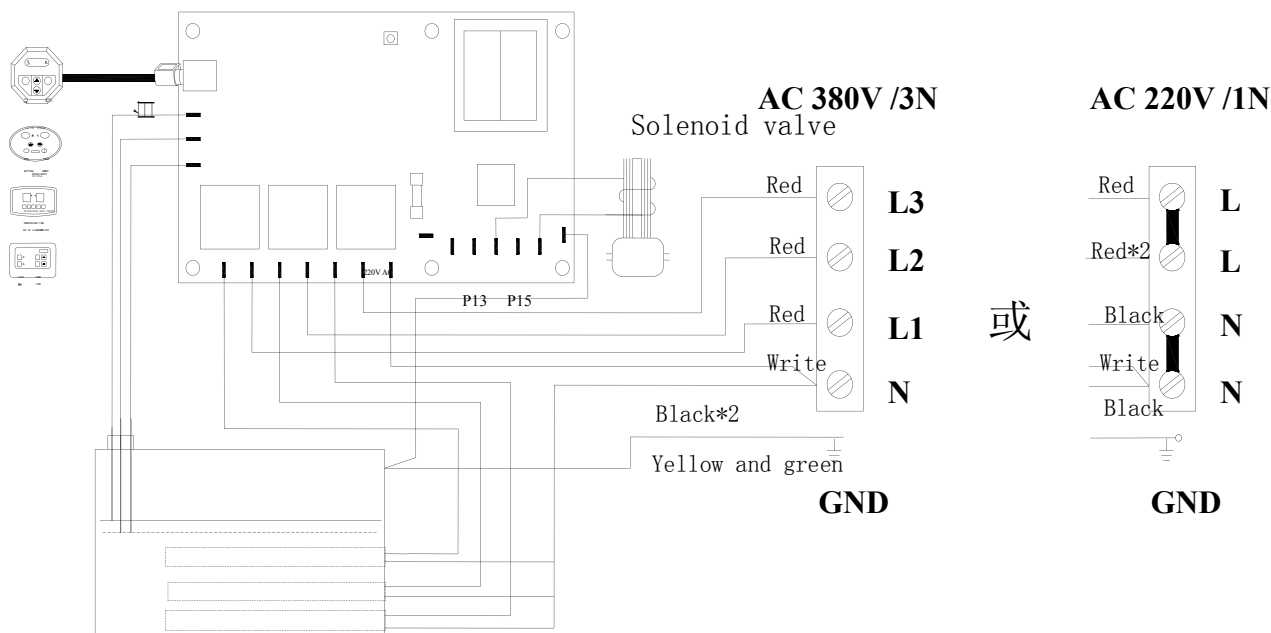


Figure 5 connection figure of steam generator

Check terms

Please check the machine under these terms before using it

- 1, make sure the machine connect earth, and the earth wire's width should wider

than 4mm².

- 2, check if the model is proper, if not, the steam room will not reach the highest temperature.
- 3, choose the proper steam generator (220V or 380V). The heater and the board will be damaged if 380V were connected to the 220V steam generator. The power will reduce 25% if 220V were connected to 380V steam generator. Zone line of 380V's steam generator must be connected rightly, that is zone line can not connect phase, or the heater and board will also be damaged.
- 4, the steam generator must be stalled vertically.
- 5, choose right cable and circuit breaker.

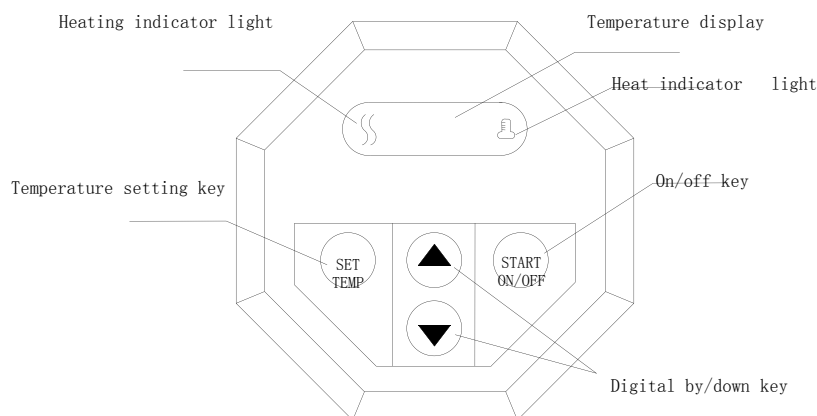
Warnings;

- Turn off all the power before stall and maintain the machine.
- Do not add additional wires and power to the machine. Make sure earth wire has not linked to the electric wire. Please use parts of Source Company for safe usage of machine in the process of installation, operation and maintain.

Part four ST—135 temperature controller's operation and installation direction

ST-135 temperature controller's operation direction

- 1, temperature display window; the temperature is shown in steam room when steam generator in work
- 2, heating indicator light; generator is heating for steam when lights on
- 3, heat lamp; steam room reaches setting temperature when light on, the machine begins to work automatically to keep temperature stable in the room.
- 4, start/stop key; the machine begins to work when touch the key softly, and then generate steam in few minutes. The machine will stop when touch the key again. The machine's working time is 60 minutes and the machine will be off automatically if time is over.
- 5, temperature setting key; when the machine is on, press the temperature setting key and set the temperature. Press START/STOP key to adjustment temperature and then the setting temperature is shown in the screen. Press the setting key again or quit the setting status in 15s after the proper temperature. The setting temperature range is from 35°C to 55°C



ST-135 Controller

Figure 6

ST-135 temperature controller's installation direction

1, controller's installation location—it must be installed outside the steam room and sealed by silicone adhesive

2, ST-135 controller's installation;

Installation—controller can be installed indoor or outdoor. For convenient use, please install it far from the earth 1500mm. the wall must drill a hole for fixing the controller from the back. Two control lines in the back of the controller should be inserted the corresponding jack separately. Peel the double-sided adhesive tape film on the controller's back and use silicone seal the wall. **(note; 1, control line muse be installed inside the ray tube for maintaining. 2, the double-sided adhesive on the controller's back can not work for fixed function and glass glue should be used to fix.)**

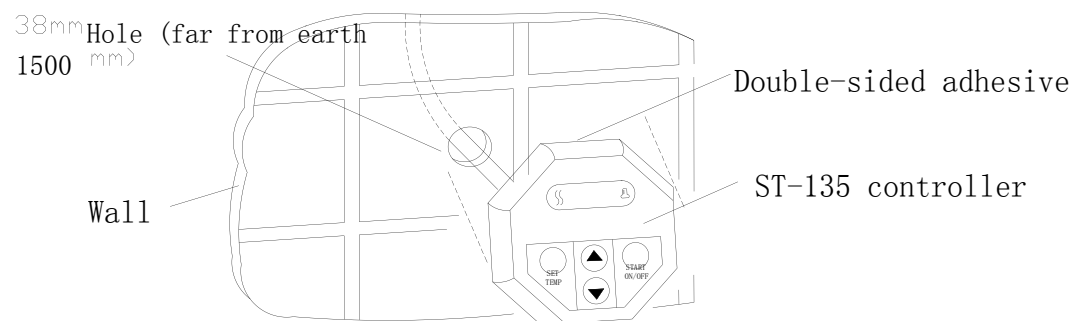


Figure 8

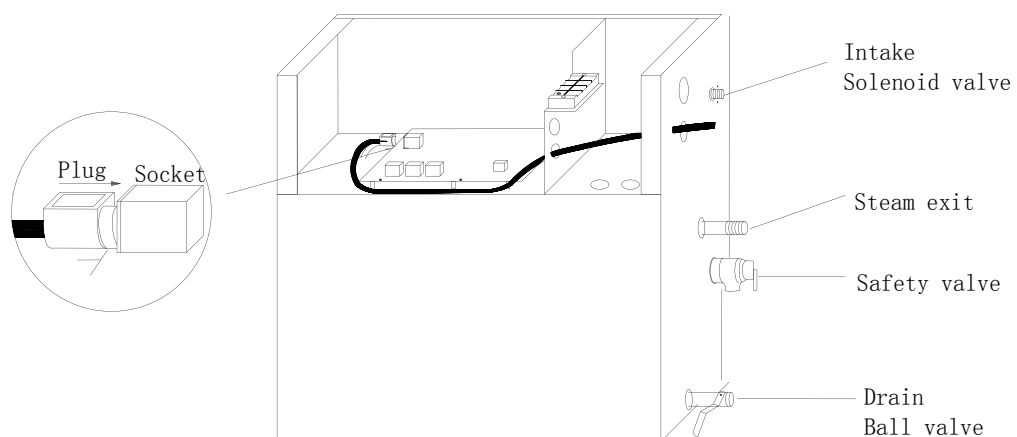


Figure 9

3, temperature probe's installation—the temperature probe induces the temperature in the steam room. Its installation height is 2m and it should be fixed inside the steam room by screws.

4, starting the steam generator—make sure the installation of water pipe and wire is over and starts the valve, then turn on the power. Press START/STOP key and the machine begins to work. Steam enters into the room after a few seconds. Press START/STOP key again and the machine stops working. ST-135 controller will show the present temperature when it is on work. The setting temperature range is from 35°C to 55°C. (factory temperature is 40°C and time is 60 minutes

Warnings;

- **The machine must be connected with the ground.**
- **Do not install the machine and controller in wet place. It should be installed in dry and ventilated place. Our company will not take the responsibility if it is damaged by wet.**
- **The double-sided adhesive on ST-135 the controller's back can not work for fixed function and glass glue should be used to fix.**

Part five ST-135A controller's operation and installation direction

ST-135A controller's installation direction

- 1, the controller should be installed outside steam room and be easy for operation (it is better to install it near the room's door). Its height is 1.5m.
- 2, dig a hole before installation (hole's diameter is 30mm), tear the adhesive's protection paper behind the controller, fix the controller and then seal the sides with glass glue. (Figure 10)

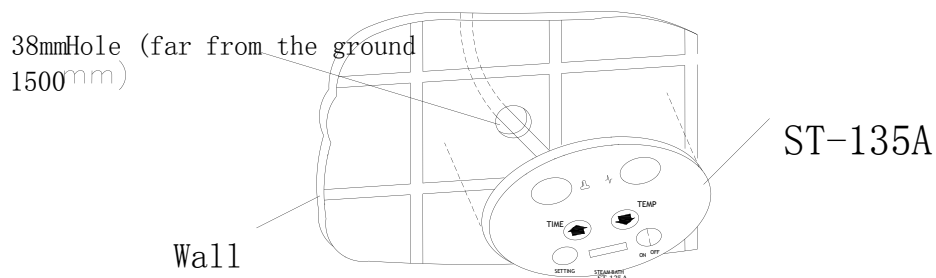


figure10

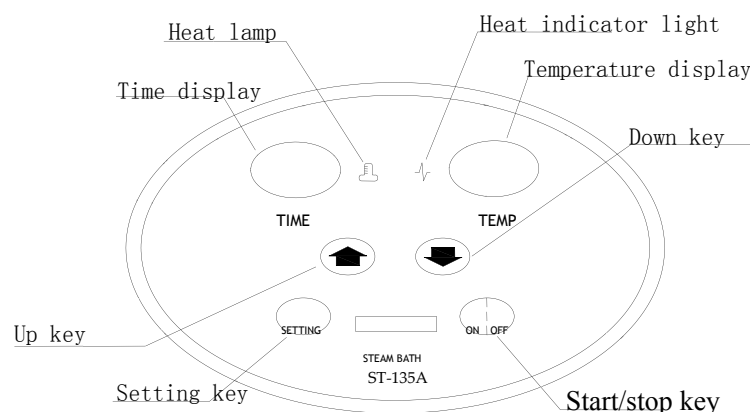


Figure11

ST-135A controller's operation direction (figure 11)

- 1, on/off key; start or stop steam generator. Start the generator when press first, stop the generator when press again. Time and temperature will be shown when the steam generator starts. Heat indicator light is on if the temperature in the steam room is lower than the setting temperature, or the heat lamp is on.
 - 1) Time display window shows countdown time, the machine turns off if the window shows "0".
 - 2) Temperature display window show the temperature in the steam room.
- 2, setting key; set the temperature and time. The number in the time display glitter when press the setting key first. The number in temperature display glitter when press the setting key again for setting temperature. Retreat the setting state when press it thirdly. (The setting state will retreat in 15s without any operation)
 - 1) Press up/down key to modify the temperature or time in the setting state. The number will increase or decrease one if press one time.
 - 2) Time setting range is 1—60 minutes. Factory time is 45 minutes.
 - 3) temperature setting range is 35--55°C, factory is 40°C.
 - 4) Time setting function use countdown model. The machine is off if is shown "0".
- 3, if the temperature in the room is higher than the setting, heat lamp will be on and heat indicator light is off. The machine stops generating steam. if the temperature in the room is lower than 2 °C , the machine continues to generate steam. Heat indicator light is on and heat lamp is off at this time.

Part six ST-135M controller's installation and operation direction

- 1, controller's installation---same with ST-135A controller
- 2, ST-135M controller's operation direction; Look at figure 12
 - 1), on/off key; start or stop steam generator. The generator starts when press the key first, and the generator stops when press the key again. Time and temperature is shown when starts the generator. Heat indicator light is on if the temperature in the room is lower than the setting, if not, heat lamp is on.

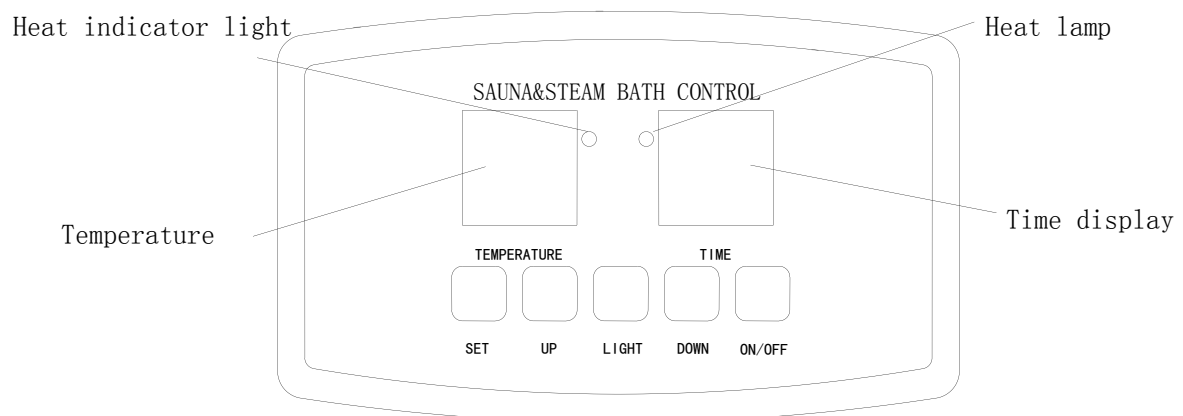


Figure 12

- Time display window shows countdown time. The machine stops automatically if it is shown “0”
 - Temperature display shows the temperature in the steam room.
- 2), light key; the light key in the steam room. The light is on if press first. the light is off if press second. The power is 220V AC.
- 3), setting key; set the temperature and time. The number in the time display glitter when press the setting key first. The number in temperature display glitter when press the setting key. Retreat the setting state when press it thirdly. (The setting state will retreat in 15s without any operation).
- Press up/down key to modify the temperature or time in the setting state. The number will increase or decrease one if press one time.
 - Time setting range is 1—60 minutes. Factory time is 45 minutes.
 - temperature setting range is 35--55℃, factory is 40℃.
 - Time setting function uses countdown model. The machine is off if is shown “0”.
- 4) up/down key; the operation of these two keys can be done only in setting state, or it will not work. Modify the temperature or time in the setting state, and the number will increase or decrease one if press one time.
- 3, if the temperature in the room is higher than the setting temperature, heat lamp will be on and heat indicator light is off. The machine stops generate steam. If the temperature in the room is lower than 2℃, the machine continue generate steam. Heat indicator light is on and heat lamp is off at this time.

Part seven ST-135T controller's installation and operation direction

- 1, controller's installation and location--same with ST-135 controller
- 2, ST-135T's shape and function operation, figure 13

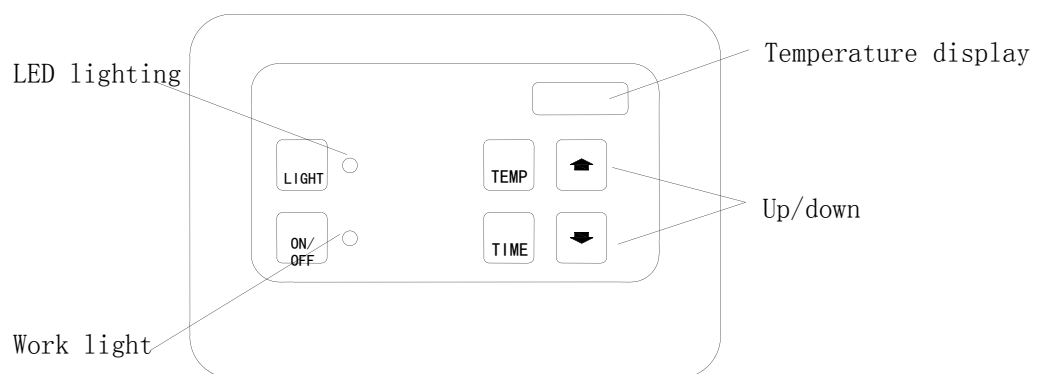


Figure 13

- 1), on/off key; start or stop steam generator. Start the generator and work light is on when press first. Time and temperature will be shown when the steam generator

- starts. Stop the generator and work light is off when press again.
- 2), light; turn on or off the light in the room. Light is on when press the key first, and light is off when press it again.
 - 3), temperature setting; enter temperature setting mode when press time key. Modify temperature with pressing up/down key. The number increase or decrease one if press the key one time. Temperature range is 35°C-55°C.
 - 4) time setting; enter time setting mode when press time key. Modify temperature with pressing up/down key. The number increase or decrease one if press the key one time. Time range is 1-60 minutes.
- 3, if the temperature in the room is higher than the setting, heat lamp will be on and heat indicator light is off. The machine stops generating steam. If the temperature in the room is lower than 2 °C , the machine continues to generate steam. Heat indicator light is on and heat lamp is off at this time.

Part eight steam generator's maintenance and repair operation

direction

Steam generator's maintenance

- 1, check steam generator, steam nozzle, parts and pipelines regularly to prevent the damage caused by steam and leak.
- 2, the machine equips with drain valve for discharging precipitate in the generator. The work is done every month or even more frequently depending on water quality or generator's using.

Cleaning process: start drain valve when the machine is cooling. Stop the valve after 10 minutes' water running (the machine is not heat when draining water).

- 3, please check any over-heat omen when the machine is on. Check the firmness of all the parts.

Maintenance operation direction

- 1, change heater; turn off the power, drain water tank's water, open the front cover and pipeline's cover, mark the wire's interface and remove the wire and get out the heater. Then, take a new heater; cover the heater's wire pipe with a rubber ring, and after cleaning the dirt, sleeve the heater and tighten it (tighten the sleeve ring but not turn out). After connecting the heater, check if it is leaking and then cover the covers well.
- 2, change circuit board; turn off the power, open the front cover, and pay attention to the water level that blue and write water level probe point to. Take down the probe and the three lines on the board. Mark the connection interface and take down the board. Install adopts the opposite stages with above.
- 3, change solenoid valve; stop power and water source, and open the front cover. Take off two blue wires from solenoid valve. Then take off the up hose, release two screws and remove the solenoid valve. The installation of solenoid valve and hose is opposite with above.
- 4, change water level probe; turn off the power, open the front cover, and pay

attention to the water level that blue and white water level probe point to. Pull out the three wires, install a new probe, and screw plastic nut to the original height. Then plug the three wires can be.

Warnings;

- **Turn off the power before the work of maintenance and reparation.**
- **Test the operation once before the normal operation**

Part nine troubles and the direction of overcoming

The machine does not contain the parts that the users can operate. The maintenance must be done by professionals who have certification. Please contact with seller if more services or authorized services are needed.

| Phenomenon of Troubles | Analysis of reasons | Methods of excluding |
|---|---|---|
| The controller has display, but no steam is generated when start the controller | No water Trouble of temperature transducer Trouble of board Trouble of heater pipe | 1, 5minutes are needed for starting the generator 2, check if water pipe has water or supplying valve is open 3, check if solenoid valve has impurities 4,check if heat indicator light is on 5, change board 6, change heater pipe 7, turn off power and contact with sellers if these methods are not useful, |
| steam is generated continually after stopping the controller | Trouble of controller's circuit Trouble of equipments | 1, check if the board is wet and water is in 2, change board 3, turn off power and contact with sellers |
| Water is out from steam nozzle | Trouble of solenoid valve Trouble of board Water level probe | 1, check if the board is wet and water is in 2, change board 3, change solenoid valve 4, change water level probe 5, turn off power and contact with sellers if these methods are not useful |

| | | |
|--|---|---|
| Controller has no reaction and display | Trouble of controller Trouble of board Trouble of controller's wire | 1, check power, and if red indicator on the board is on 2, change board 3, change controller 4, change water level probe 5, turn off power and contact with sellers if these methods are not useful |
| Controller show "0" | Trouble of temperature transducer | 1, check temperature transducer's connection wire 2, change temperature transducer |
| Heater lamp is not on | Trouble of fuse | Check if fuse is burnout (some machine has not this function) |

Marking

- Refers to the 4 indicators on the board when excludes the troubles. Red indicator—power, green indicator--- start generator, yellow indicator--- heating, orange indicator--- watering.
- Turn off power before changing original parts.
- Contact with sellers or manufacturers if these methods cannot exclude the troubles or the machine cannot work because of other reasons.

Part ten guarantee conditions

The company gives conditional guarantee to the generator buyers. The very kind of damage to the machine caused by its material of electrical components and the quality problems of the product itself and being dealt in a year or 18months (only the time of happening is approved)should be guaranteed free of charge. However, any part under any circumstance should not be guaranteed.

- Heater pipe's warranty period is 90 days or in half a year of factory time (to first happening as standard).
- The company has the right to choose repairing or changing parts. Guarantee parts are changed by new parts if they are in the company's guarantee range. And they must be recognized by the company before returning to the company (pay freight oneself). Please pay the fees if parts are needed to bought or changed.
- The matters that this institution has pointed are not in the guarantee range.
- The kind of damages that caused by wrong use, negligence, crack by accident, inadequate power, not depending on the institution and the refitting by the people who do not belong to the company are not in the guarantee range.
- After the guarantee period, the company offers paid services to users and material and travelling expenses are needed to pay.
- The guarantee products must belong to the company.

- The company will not take the responsibility of damage caused by other things or people.

- Please contact with sellers about other referring matters.

Thanks.