BLUETOOTH GENERATOR OPERATION & INSTRUCTION MANUAL
3 PHASE

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Cataloge

Prologue

This Bluetooth series contains a steam generator and a controller.You can adjust the tempeture of the steam room and set the working time of the steam as you wish. The system contains a overheat/dry-burnt protection system and a security pressure release valve which prevents overheating and assures safe working pressure. This generator is well designed and is very stable to use, using high quality materials stable circuit boards and is an ideal choice for the modern family, hotels, gyms, and sports clubs. Our generators are designed for noticeable effects on pain relief,weight control, skin stimulation and stress reduction due to an increased blood circulation encouraged from the steam bath process.

This series include 9 types of machines with power outputs from 4.5kW, 6kw, 7.5kw, 9kw, 10.5kW, 12kW, 15kW, 18kW

Users instruction

Caution: ***We are not responsible for the malfunction and damage caused from inproper installation that does not comply to the users manual.***

NEVER TURN ON THE GENERATOR WITHOUT FIRST TURNING ON THE WATER SUPPLY. THIS CAN CAUSE DAMAGE.

1. Make sure the model and the accessories are correct, including the voltage input.
2. Make sure the steam generator KW power is matched to the steam room' dimension. Pay attention to the steam room's cubic metreage and the construction of the steaming area. Please refer to the Page 11 for steam room dimension selection.
3. Make sure to read this manual carefully for the secure and effective use.
4. We shall not be responsible for the product damage or malfunction caused by self-installation or the operating procedures which is not followed within the users instructions.
5. These generators are well packaged within a case, please check the goods when they have arrived to assure all is in good condition. If you find any damage, please contact Livinghouse
6. This product must be used indoors.

Choosing a right location

Important: ***Install any ventilation fan outside of the steam room area***

Locations recommended to customers for the correct installation.

1. The distance to the steam room should be less than 6m, the standard cable between the controller and the steam generator is 6.5m
2. The steam generator must not be installed in the steam room.
3. Do not installed outdoors or in any place that will compromise the integrity of the machine.
4. Do not install in cold or drafty loft areas or any places where water can freeze.
5. Do not install near the combustible, caustic or chemical objects
6. Installed in a dry place allowing ventilation space around the machine.

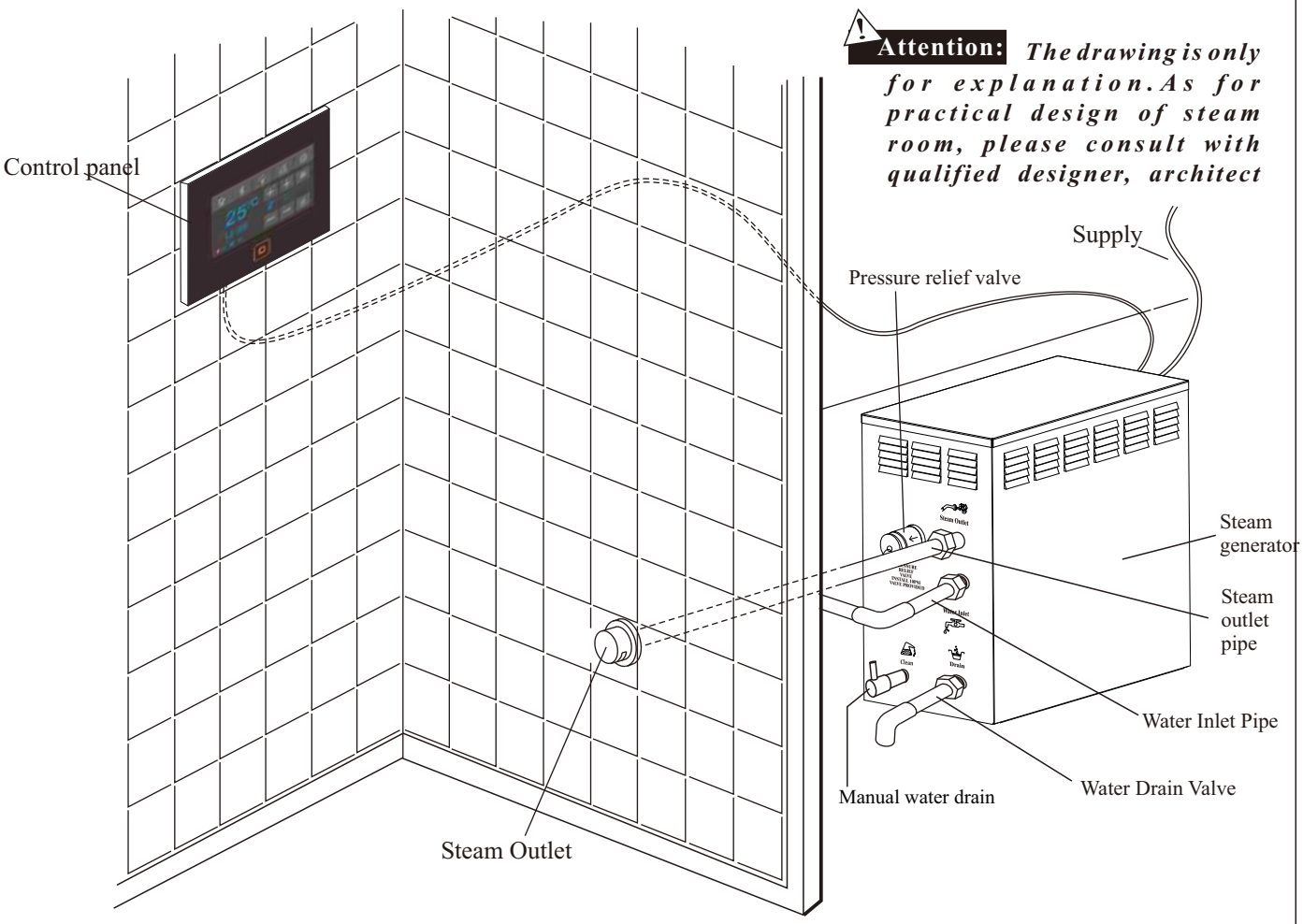
7. The steam generator can be wall fixed or deck mounted. Make sure the machine is firmly attached and horizontally installed.
8. Allow 300mm space around the sides and top of the machine.
9. The place where the machine is installed must be easy to access for maintenence.

10. The installation site must be convenient for draining of the water steam tanks if required.
11. The steam tube, safety valve, drain valve, water tube, steam outlet can still be hot after a period of time after the steam cycle has finished. Measures, for example using the heat insulation on the hot steam pipes to prevent the damage of nearby parts and people should be taken

12. The controller must be installed in the steam room, please refer to the chapter instruction of the controller's installation and operation of the manual.

Attention: ***The steam generator (including the controller) are comply with the CE and UL certificate, and are sutable for moisture environments.***

Installation drawing of the steam generator



Installation of pipeline

Warning: ***The installation should be conducted by qualified plumbers with corresponding operation certificates in accordanceance with national requirements:***

Please note: Warranty is subject to correct and professional installation

1. Use joints when connecting pipes.
2. Use copper pipes or brass fittings only.
3. Do not use black and galvanized or PVC pipes.

Water supply pipe (1/2'')

1. Connect cold water supply.
2. Install a stop valve on the water supply pipe. The stop valve should be installed in a place where it is easily accessed.
3. Clean the water supply pipe of all debis and swarf before connecting the water pipe to the steam engine. Failure to do so may cause a blockage in the inlet valve.
4. It is recommended that a filter or anti-limescale equipment is used on the water supply pipe.
5. The water pressure should be between 15 and 20 pounds/square inch. If necessary, decrease the pressure accordingly.
6. If required, install equipment to prevent the water producing a noise.

Steam pipe (4.5kW pipe size: 1/2'';6kw & above:3/4'')

1. Do not install any valves in the steam pipes. The steam pipe must never be obstructed.
2. Install copper pipe (4.5kW pipe size: 1/2" 6kw & above:3/4") between the steam outlet and the steam nozzle.
3. The heat insulation material used to insulate the steam pipe should be resistant to temperatures as high as 120°C or higher.
4. The steam pipe can slope either downhill or uphill, or even have sections that go uphill and then downhill. However, it should not go downhill and then uphill, as this can create a water trap. Ideally, if possible it is best for the steam pipe to slope back to the generator as any hot condensed water will return to the generator instead of exiting out of the steam outlet. The shorter the steam pipe, the better. Try to decrease the number of elbows and avoid abrupt turns.Try to decrease the number of elbows as to avoid too many steam restricting angles. Manufacturers recommend 2-3 max. Maximum recommended length is 6m including any elbows.

Attention : ***Do not install a "U" in the steam pipe which will form a trap for the condensed water to pool and block the output of steam.***

Steam nozzle (4.5kW pipe size: 1/2'' 6kw & above:3/4'')

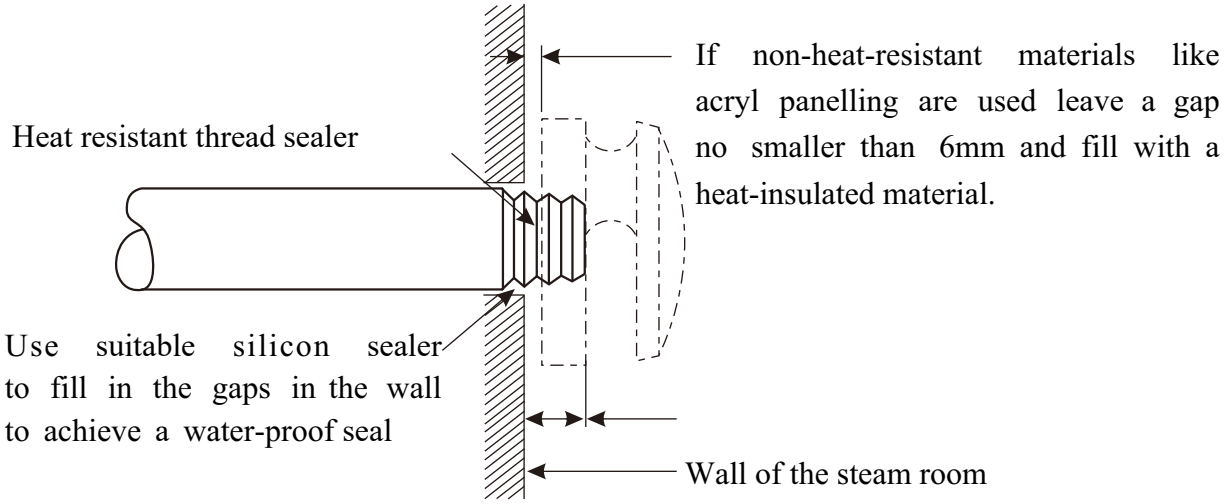
Attention: ***The steam outlet nozzle gets very hot, try to avoid installing the steam outlet nozzle in a position which can easily come into contact with people in the steam room area.***

1. Install the steam outlet nozzle 150 to 300mm inches above the floor. If wall covering selected has poor heat resistance properties protect with a suitable heat insulation between steam outlet and wall.
2. The steam nozzle should be installed with the outlet hole facing down. Use a heat resistant thread sealer between nozzle and pipe.

Attention : ***In order to protect the steam nozzle do not grip or overtighten with spanners, use a soapy water and soft sponge to clean and do not use corrosive or abrasive chemical cleaners***

Important:

1. ***Please consult local distributors of building materials before selecting heat resistant materials and insulations. It is suggested that MS-103412 anti-heat materials are used.***
2. ***Ensure steam room area is steam leak free. The pipes, its accessories and the holes in the walls should be sealed by applying a silicon stopper so that no steam can enter the holes into the fabric of the steaming area.***



Drainpipe (1/2'')

According to local regulations the steam generator drainage valve should be connected to the drainage. The steam generator drains using gravity.

Attention: ***The drainpipe should fall away from the machine allowing gravity drainage.***

Safety valve

1.Steam safety valve is to prevent too much steam pressure for safety reasons.
The pressure limit range of safety valve is 15PSI and the pressure will be automatically
2.released if this pressure is exceeded.

Warning:

1. ***Do not dismantle the pressure decrease valve.***

Recommended steam pipework for descaling and easy maintenance of generator.

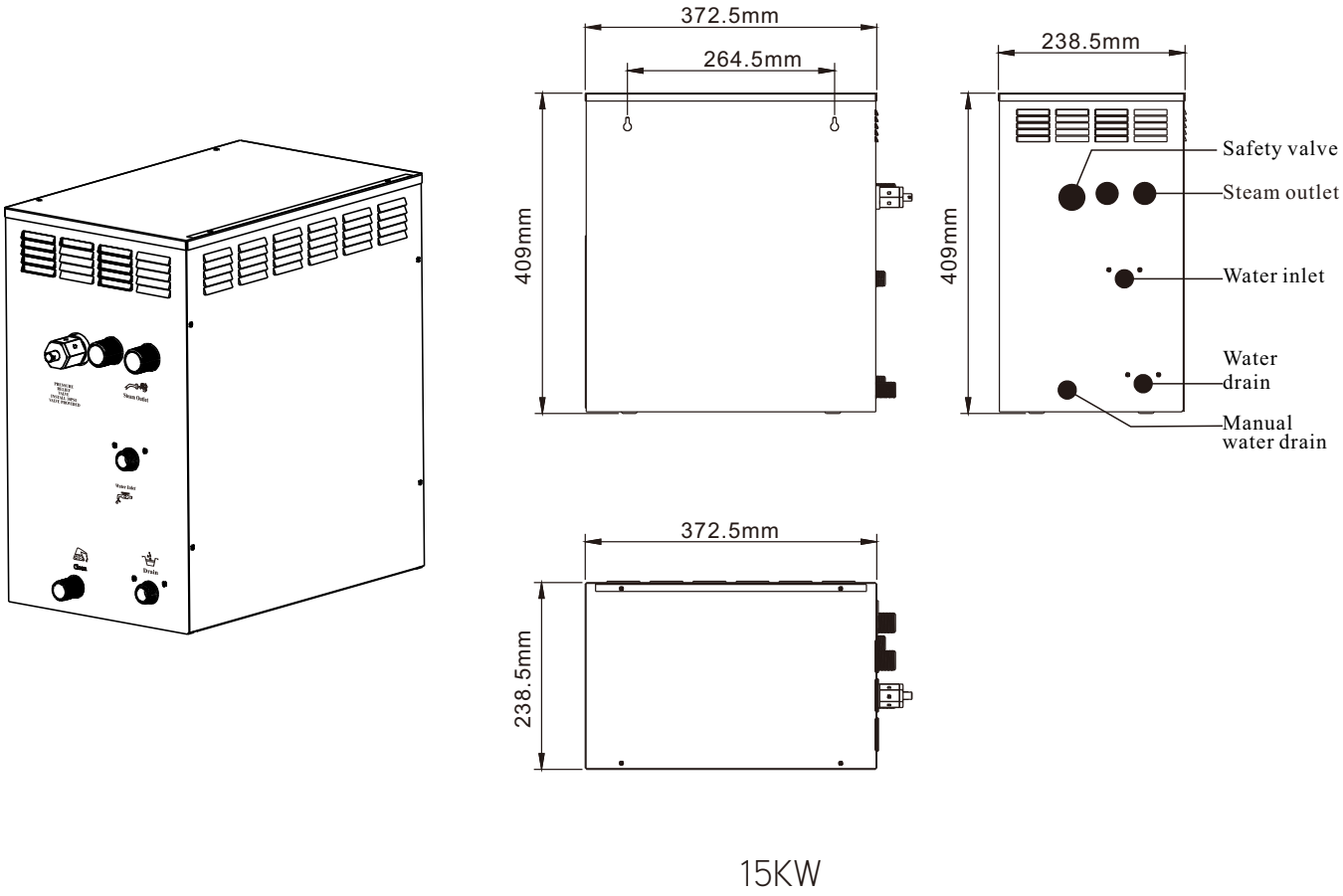
For horizontal pipework.

For vertical pipework.

Water softener filter recommended for hard water areas.

Recommended:
Use flexible pipe for water inlet.

Blueprint for the steam engine



15KW

Attention: ***To help maintenance, keep the steam engine clean. If technical information is not to hand, do not work on the plumbing and electrical equipment. To avoid damage to the equipment, do not connect strong electric current directly to the components.***

Electrical requirements:

Electricity supply circuitry:

1. Test the voltage of electricity supply and make sure steam generator is the correct electric voltage.

2. Insulated copper wiring cable should be used with an anti-heat temperature of 90℃ and a specified voltage of 500V. Refer to national consumption code of practice for the specifications.

3. Choose steam generator with suitable item number, and plug the earth wire into the earth terminal.

4. Install an independent circuit breaker between the power supply and the steam generator to provide an electricity supply with overflow protection and electricity earth leakage protection.

Attention: ***All the electrical connections must be in accordance with national and local electricity codes and be installed by professional electricians.***

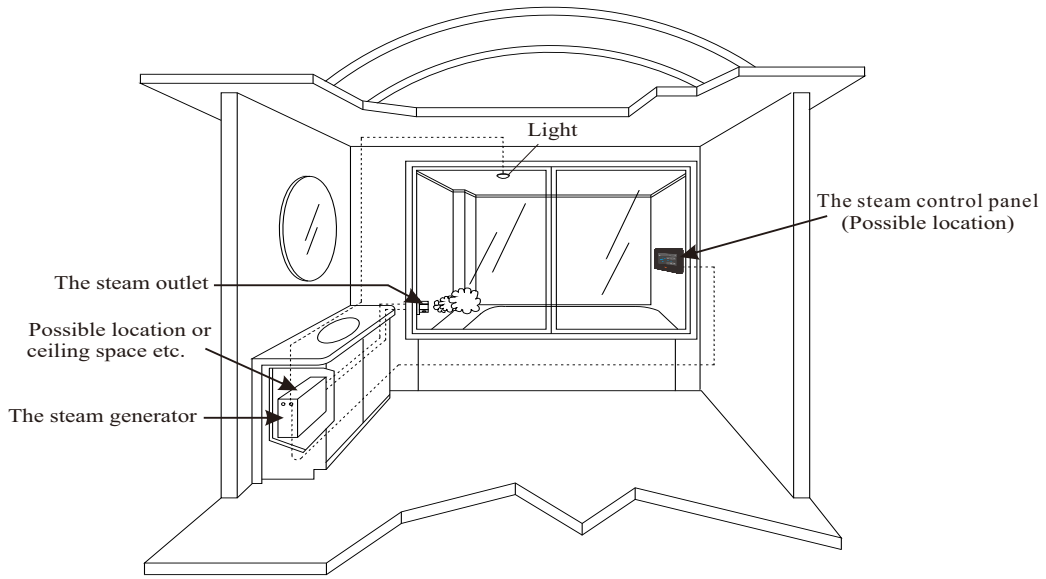
Installation of the top light

CAUTION:

The light available has a 12V output. The lights should not exceed 35W

Lights should be installed in the ceiling of the steam room or the places where children cannot.

CAUTION: ***Electrical components must not be exposed to moisture or water.***



C AU TIO N: ***The illustration is for example only, the practical installation must comply with the local electric guidlines, and installed by a professional***

Choose your type of machine

Measure the length, width and height (foot) of the current steam shower or bathtub room.
Example;
L:2m x W:2m x H:2m = 8 Cubic metres
You would need 9 kw generator (it is that simple)
However,if you shower wall materials are;

A:Natural Stone(Granite or Marble etc.)	ADD	70%
B:Solid surface	ADD	25%
C:Porcelain	ADD	50%
D:Ceramic tile	ADD	50%
E:Glass(2 walls)	ADD	50%

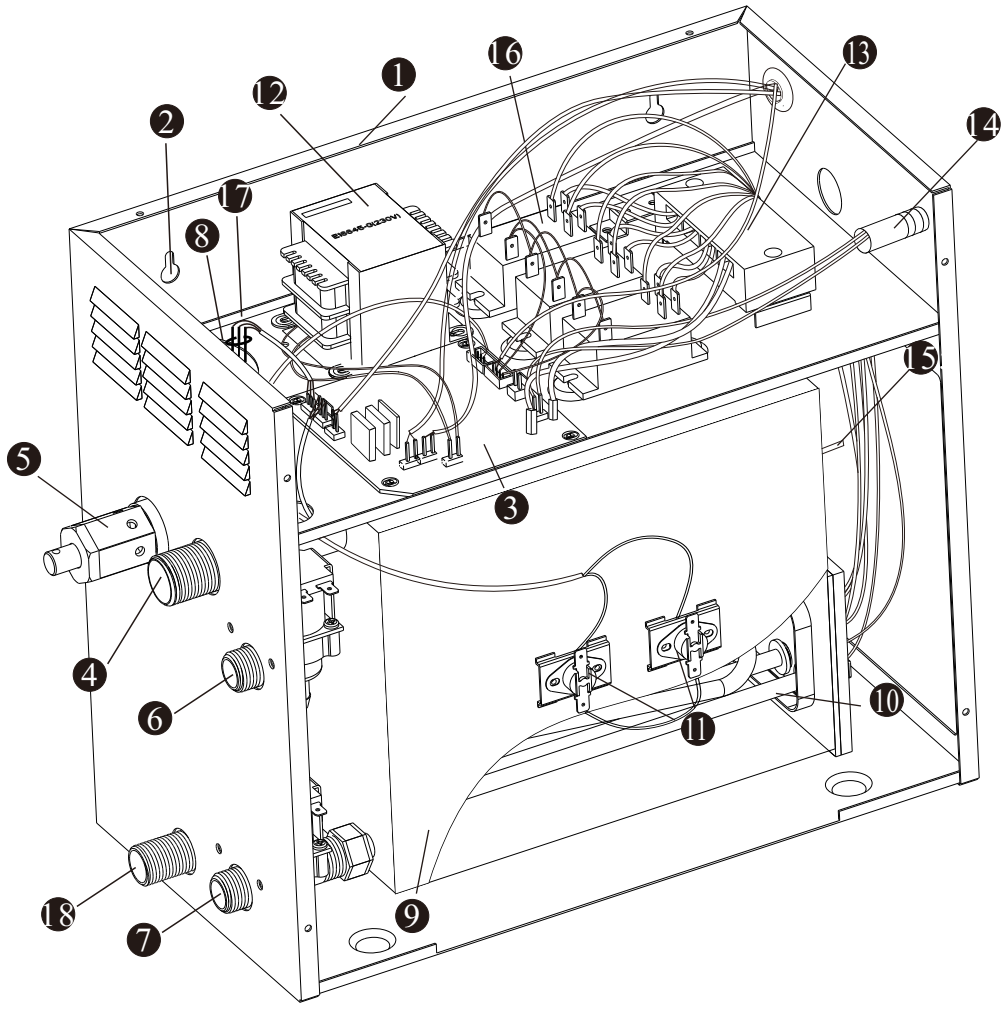
Important: ***The calculation formula for selecting the size of steam generator is for reference only. Due to the variations of building specifications these are guidelines only. If we have all relevant information, including actual plans, project instruction and building details, we can recommend the machine size. Otherwise, the manufacturer will not be held responsible for the machine selection.***

Maintenance of the steam engine

Important: ***Perform water drainage operation after each use.***

1. After the completion of each steaming cycle the steam generator will automatically drain and flush the steam tanks before powering off the supply.
2. There should never be any leakage or damage to the steam generator, steam outlet nozzle, components and pipes. They should be checked and repaired annually.
3. Clean the water supply pipes of the steam generator once a year.
4. Check all the connections, taps and electrical connection terminals annually to ensure they have not become loose.
5. Check for limescale build up in the water tanks and electric heating elements. If excessive build up, use a recommended de-scaler and soak for 30 minutes).
6. Remove the water level sensor probe yearly to descale.

Configuration of steam generator



1. Exclosure
2. Installation bracket
3. Circuit board
4. Steam Outlet
5. Pressure relief valve
6. Water fill valve
7. Water drain valve
8. Subsidiary water tank
9. Main water tank
10. Heating Element
11. 105°C Hi-limit
12. Transformer
13. Terminal block
14. Fuse
15. Earth wire connector
16. Relay
17. Water level sensor
18. Manual water drain

Cleaning of the steam generator

Manual cleaning

1. Before cleaning the water tank, please ensure the tanks have drained completely.

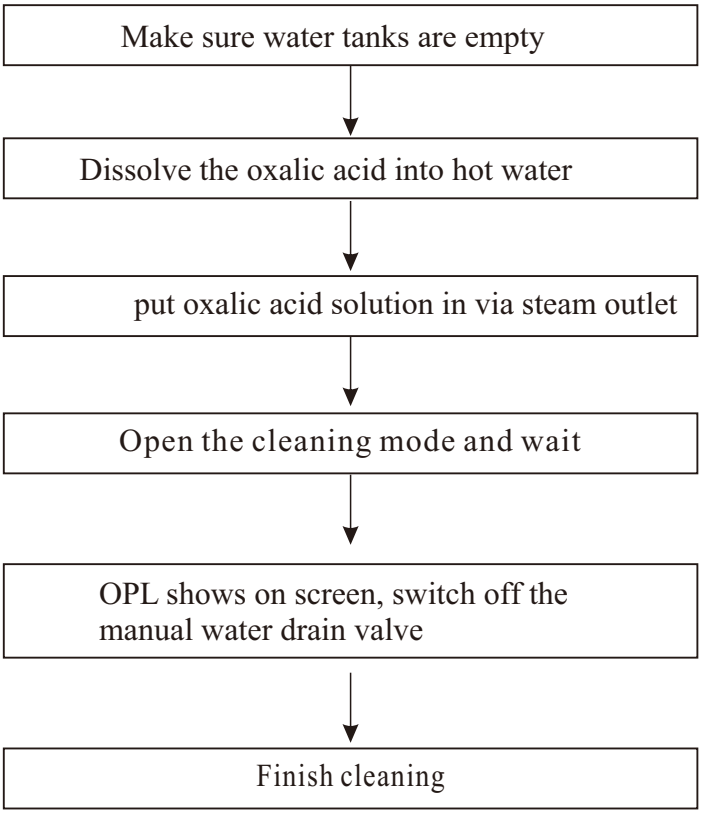
2. Power off the steam generator, pour oxalic acid (crystal state) into the generator tanks via the steam outlet connection. Example - 9KW water tank will need 220g oxalic acid mixed with 500-800ml of hot water. (please ensure the manual water drain valve is in the closed position)

3. After filling the oxalic acid cleaner into the tank, connect the power supply to steam generator but do NOT turn it on. Pressing Fly shuttle button for 2 seconds the system will enter into the cleaning cycle, water will fill the tanks automatically. TEMP window on panel will show “hot” and a 59 minute countdown will begin and show on the Timer. The steam generator will heat up the water tanks twice in within this period automatically and automatically de-scale. When timer countdown to“00:00”, the TEMP window will show “opl” from “hot”, Then switch on the manual drain valve to drain the solution from the tanks. When system detects lack of water for 1 minute the system will switch on the water inlet valve to flush tanks with fresh water for 1 minute which will drain from the manual drain valve. After finishing cleaning, the system quit the cleaning mode automatically. When the TEMP window shows “opl”, if you don't switch on the manual water drain valve, the control display panel will wait until the valve is switched on or you can press the power on/off to quit cleaning function.

4. The water tanks should be cleaned every 6 months if in a hard water area. It is suggested to extend the lifespan of heating elements and water tanks that a water softener or in-line limescale filter is fitted to the water inlet supply.

5. The cleaning water solution must be drained through manual water drain valve to avoid blocking the automatic water drain valve.

Cleaning process



Trouble shooting

E0: The temperature sensor open circuit.

Water level sensor failure, check the control cable connections between the control panel to steam generator.

E02: The temperature sensor is short circuited.

E03: Signal transfer fault between main panel and sub-panel .

E04: Signal transfer fault between control panel and steam generator.

E12, E22, E32, E42: water inlet valve takes over 2 minutes

E13, E23, E33, E43: water inlet valve blocked.

E15, E25, E35, E45: Auto. high limit trips.

Error code	Fault description	Trouble shooting
02	Steam generator and control panel communication failure	1) Check cable connection. 2) Check IP address match.
03	Hi limit trip	Check whether there is dry burn inside water tank
05	Water inlet problem	Check the water supply or the if the water inlet valve is working or not.
08	Temperature sensor open circuit	Check the TEMP sensor cable. If not good,pls kindly change the TEMP sensor
09	Temperature sensor short circuit	Check the TEMP sensor cable, if damaged then change the TEMP sensor.

Common troubleshooting issues

To help in your use and maintenance of the steam room, the following are common issues and solutions for for your identification.

Troubles	Causes of troubles	Trouble-shooting methods
The machine does not start when electrified	1.The fuse has blown. 2.The wire connections at terminal have become loose. 3.Bad connections between controller & generator.	1.Change the fuse (0.8A/ 250V) 2.Tighten the wire connection terminals 3.Make sure the steam generator and controller connections have good contact
Electricity breaker trips automatically	1.The wire connections are damp or damaged. 2.The heating elements are broken	1.Check whether the wire connections are damp or damaged. 2.Change the heating element.
When the machine starts, hot water comes out with little or no steam	1. The water drainage valve is broken.	1. Change the water drainage valve
The display screen on the control panel does not display	1.The power wire is not connected or bad connection. The connection plug between control panel and control box is loose. 2.Problem with circuit board.	1.Check whether the connection plug between the control panel and the electrically-controlled box has become loose, and whether the power circuitry has good contact.
Water	1.The water pipe connector loose or pipe broken. 2.Water leak on water inlet valve or the water drainage valve.	1.Tighten the loose connections, change the broken pipe. 2.Change the water input valve or the water drainage valve.
No steam when starting the machine	1.No electricity. 2.No water. 3.Temperature is too low. 4.Trouble with wiring.	1.Check the power supply 2.Check the water inlet pipe and water inlet valve 3.Reset the temperature 4.Contact the distributor
No steam coming out, but water sounds in the machine	1. The steam pipe is jammed.	1. Cut power supply to check whether the steam pipe is free.
The light does not turn on	1. The fuse is blown 2. The light is broken. 3. The wire is broken. 4. Bad cable connections.	1.Change the fuse (1A/250V) 2.Change a light bulb. 3.Change wire. 4.Make the contact good.
The display is normal but no steam	1.Too much pressure inside the steam generator, so the system breaks the heat protection. 2.Wire is broken for heat protection.	1.Check the steam pipe. 2.Check the heat protection wire for good connection.

Ampere Meter

Type	Applicable space of the room (m^3)	Electricity supply	Max.Electric current (A)	Specifications for power wire
15kW	18~20	208V~ɹ3PHɹ	42A	6# r 8.0mm^2
		380-415V~ɹ3PHɹ	22.8A	12# or 4.0mm^2
18kW	20~24	208V~ɹ3PHɹ	50A	6# r 10.0mm^2
		380-415V~ɹ3PHɹ	27.3A	10# or 6.0mm^2

The data provided above is for 380-415V(3PH).

Ensure the steam generator is installed on its own independent circuit breaker with earth leakage protection

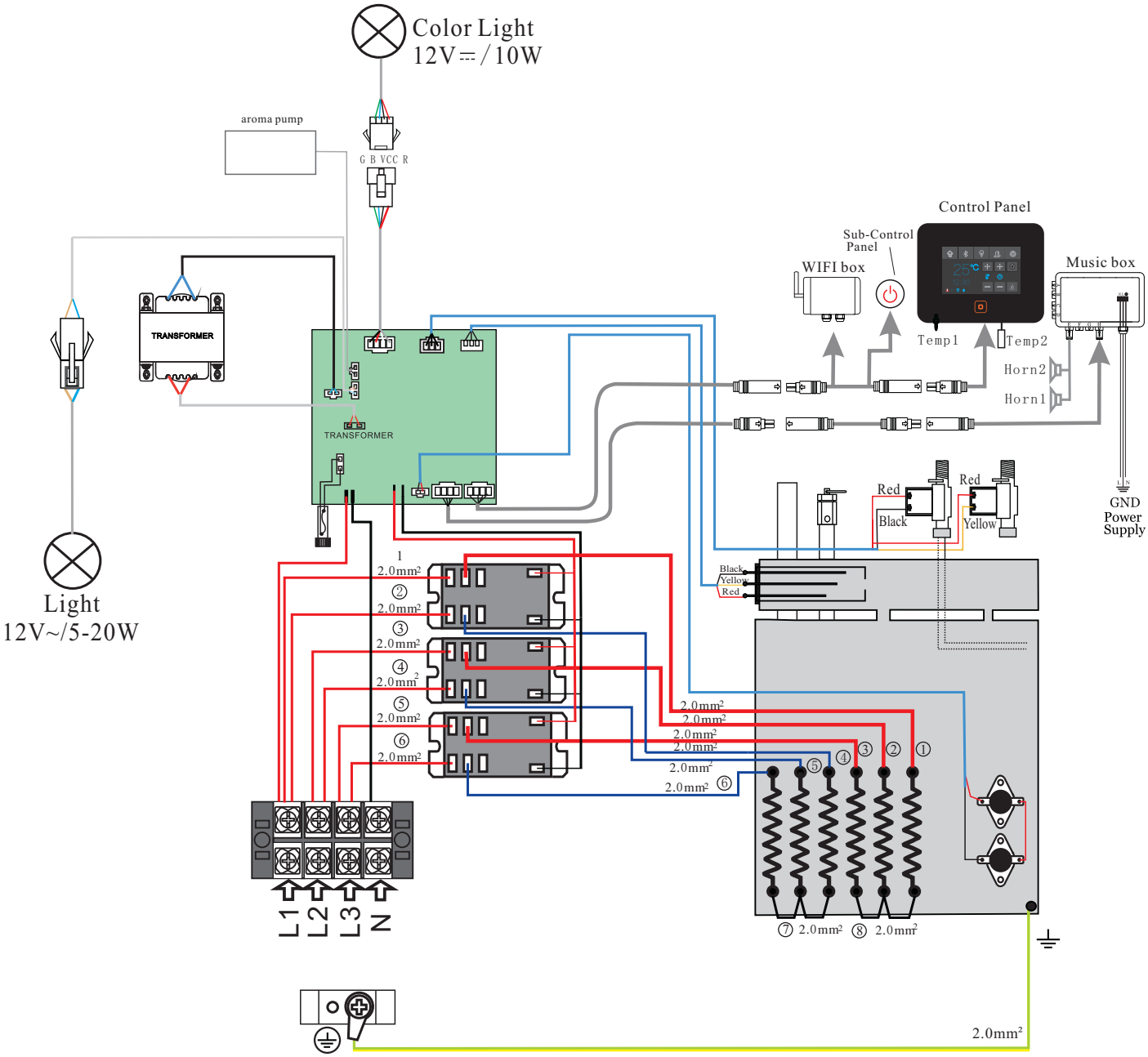
Technical parameter

TYPE

Power Output	15kW	18kW
Potency Error	±10%	±10%
Duration	>1500V	>1500V
Resistance	>20MΩ	>20MΩ
Steam Pressure	0.16MPa	0.16MPa
Steam Volume ml/min	450	500
Steam Production Time S	150-220	130-190
Water Tank Volume	7.5L	7.5L
Applicable space of the room (m^3)	18~20	20~24

IMPORTANT: ***The table above is for guideline only***

Figure(Heating element and Power line assemble illustration)



Internal wiring diagram of steam generator

15 – 18kw（380-415V/3phase）

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