Fitting Instructions

The 1 - 11 stages for the fitting of a steam / shower room.

Fig .1

1 - Construct any timber / metal studwork / masonry wall that may be required.

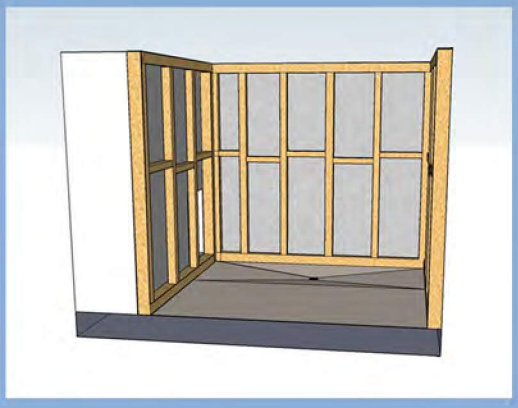


Fig .2

2 - Install and plumb shower tray or wet room tanked floor.
(A wet room situation is shown for the sake of illustration).

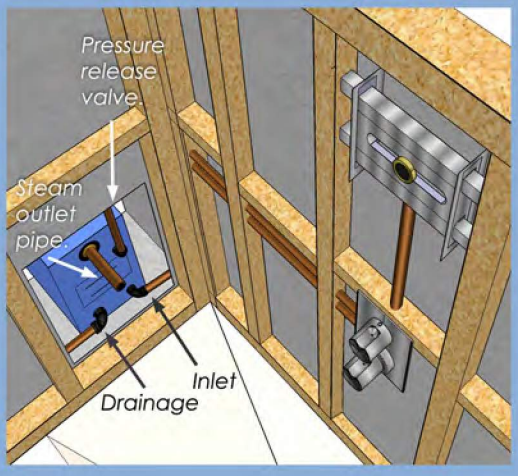


Fig .3

3 - Plumb in shower controls, shower head and water supply to steam generator.

Please see fig.3 and fig.4

(Please note that the generator is shown in this position, but may also be placed anywhere within 3 metres of the steam outlet.

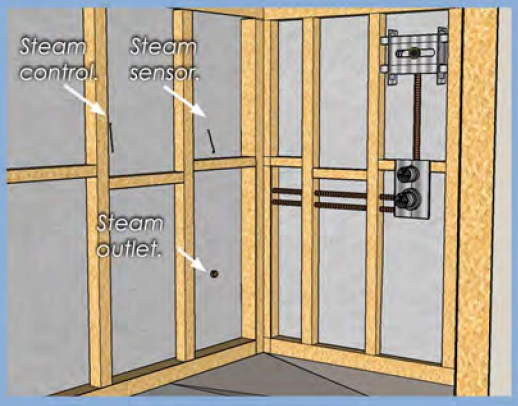


Fig .4

4 - Position wiring for steam temperature sensor ,lighting and steam room digital control (which is to be outside of steam shower area).

- Steam sensor to be installed approx 1.2m to 1.5m high.
- Steam control wire is to be installed aprox 1.2m high.

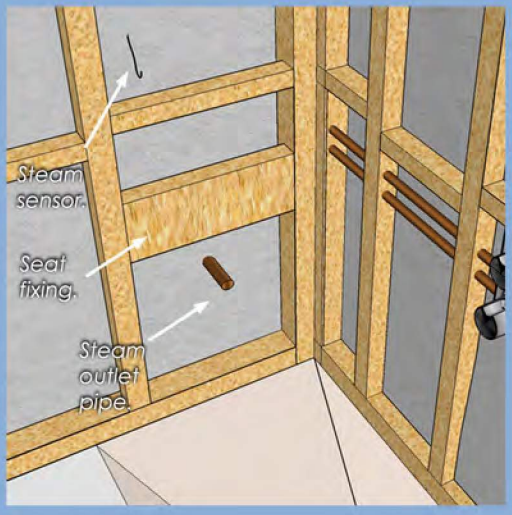


Fig .4

5 - Construct secure fixing for steam room seat (if required).

It is recommended that this seat is sighted above the steam outlet.

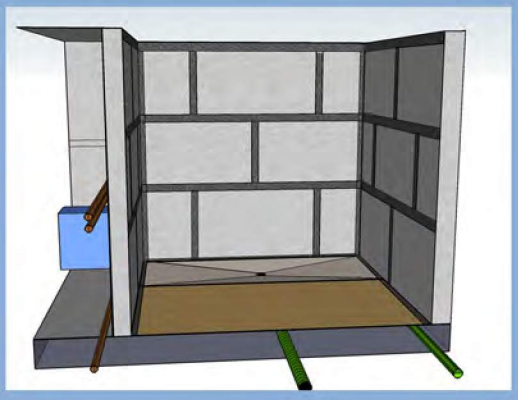
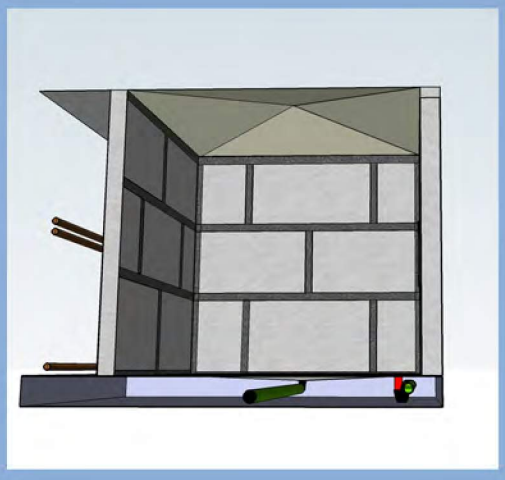


Fig .6

6.
- Install insulated tanking boards to wall area.
-Screw tanking boards to any timber or metal studwork.
- Apply supplied primer to all joints.
- Allow 3 hours to dry.
- Overlap joints with supplied tanking tape.

(Please note masonry walls do not necessarily require tanking boards).

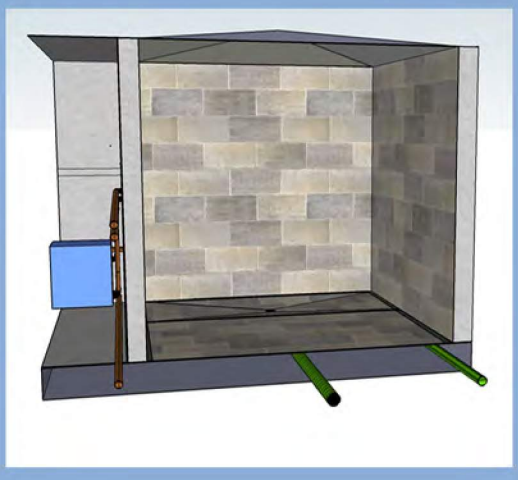


7 - Construct sloping ceiling.

A Sloping ceiling is required to stop dripping condensation.

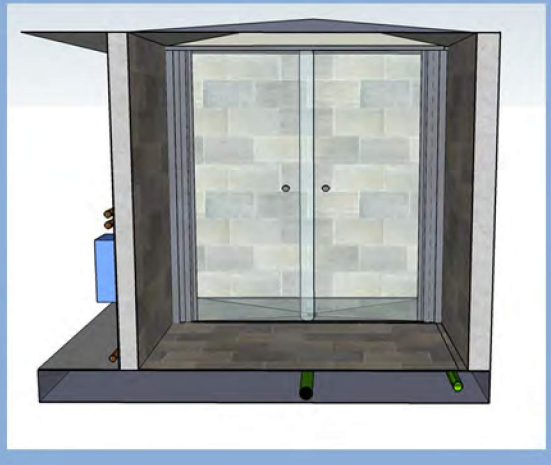
The ceiling can be constructed sloping in al 4 directions (as shown), or in a “^” , 2 direction slope.

These slopes must be constructed from a waterproof material e.g. solid surface or tanking boards.



8 - Install chosen wall tile or wall covering.

Fitted to manufacturers recommendations.



9 - Install cubicle or shower door.

Install to manufacturers specification.

10 - Fix shower control, steam outlet, steam sensor, shower head, digital control and shower seat (if required).

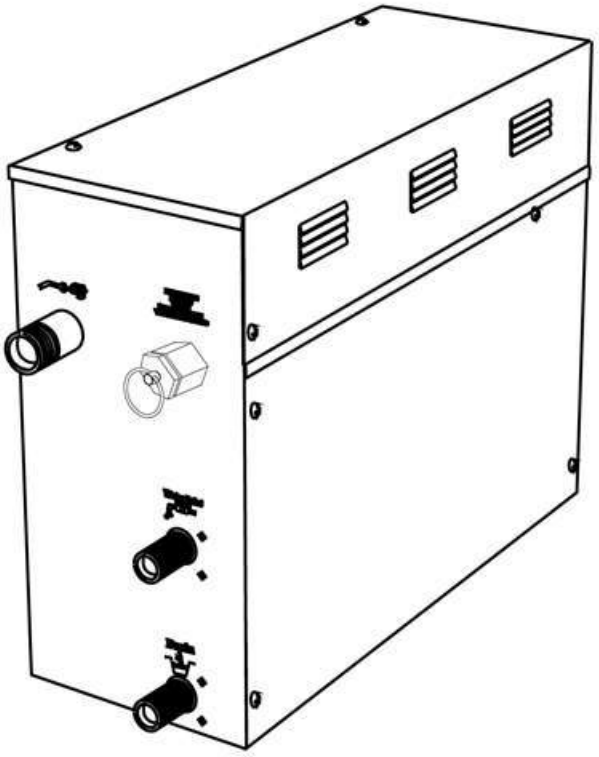
11 - Get in and enjoy!

Livinghouse.co.uk

Steam Room Generator

Operation & instruction manual

6kW / 9kW / 12kW



Index

Prologue

Thank you for purchasing a **Living**house steam generator. Included with your purchase are both the generator and controller. You can adjust the temperature of the steam room and set the working time of the steam to your preference. Safety features such as overheat / dry burnt protection system and security valve ensures the generator works at a regular air pressure. Well built, very stable and easy to install make this steam generator a great choice for a healthy, comfortable steam experience. Benefits such as pain relief, weight control, skin stimulation and stress reduction due to an increased blood circulation from the generator make this an ideal choice for the modern family.

Livinghouse offer 3 generator kit sizes of 6kW, 9kW and 12kW to cater for most domestic situations. A choice of 2 controllers also give the added benefit of including a music system that includes 2 modern speakers and a digital control or the standard stylish touch control without audio system.

User instruction

Caution: We are not responsible for the malfunction and damage caused from any installation where the users manual instructions have not been followed.

1. Make sure the model and the accessories are correct including the voltage input.
2. Make sure the steam power are suited for the sauna rooms dimensions. Pay attention to the steam room's cubage and construction. If you have any problem, please refer to the Page 9 about the correct generator selection.
3. Make sure that the manual is read carefully for safe and effective use.
4. We shall not be responsible for product damage or malfunction caused by self installation or the operation procedures which are not followed as per the user manual.
5. Livinghouse generators are supplied within secure cardboard packaging. Please check goods when delivered to ensure that they are in good condition. If you find any damage, please report within 3 days
6. This product is intended for internal use only.

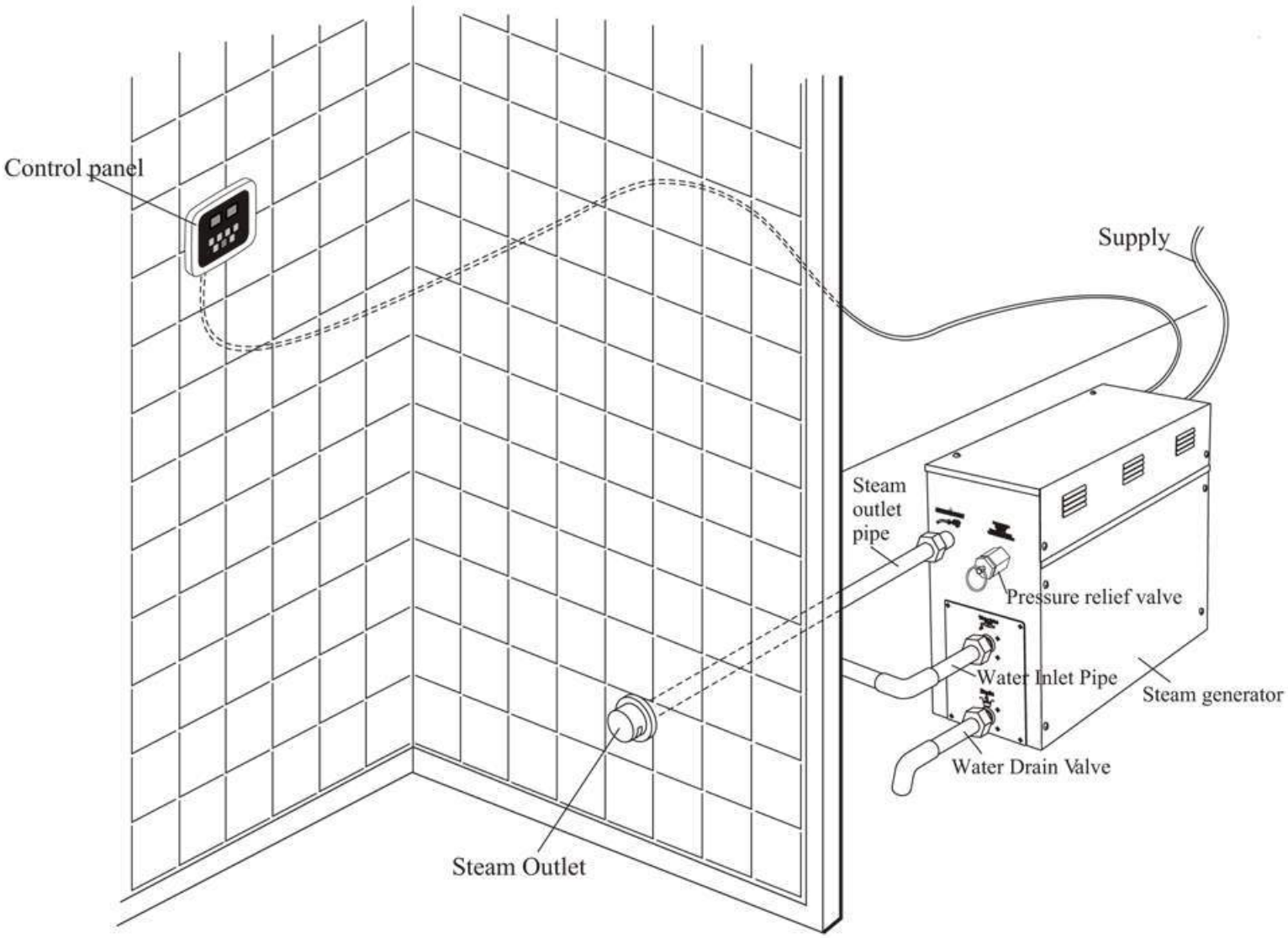
Important: Install an extractor fan outside of the steam room to help with the removal of any excessive steam that is outside of the designated steam area.

Below are the recommended guidelines for the steam room generator and accessories.
1. The distance from generator to the steam room should be no more than 6m.
The distance from generator to controller should be no more than 6.5m.
2. The generator should not be installed in the steam room.
3. Installation of the generator must be indoors where it cannot be affected by the environment.
4. Do not install the generator in a cold loft or any place that water may freeze.
5. Do not install near burnable, caustic objects or chemicals.
6. Install in a dry place ensuring good ventilation.
7. The generator must be installed securely and horizontal. There is a hanging groove for installation on a wall, again making sure that the machine is steady and horizontal.
8. On all sides and top of the generator a gap of at least 12 inches (30cm) must be allowed.
9. Easy access to the machine must be considered for maintenance.
10. The machine must be installed to allow the draining of water with a negative fall.
11. The steam tube, safety valve, drain valve, water tube, steam outlet are still hot for some time after the generator has finished its cycle. Take special care around the steam outlet to prevent injury.
12. The steam sensor must be installed inside the steam room area.
13. The controller can be installed inside or outside the steam room. Please refer to the chapter instruction of the controllers installation and operation of the manual.

Attention: The steam generator and controls comply with **CE** and **UL** certificates and are suitable for areas with moisture.

Installation drawing of the steam generator

Attention: This drawing is for explanation purposes only. Consult with qualified designer, architect or builder for practical installation design for your steam room.



Warning: The installation of all the pipes should be operated by qualified plumbers with the correct operation certificates in accordance with national requirements.

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

Water supply pipe (1/2")

1. Connect hot water or cold water pipes. If using a hot water supply make sure the temperature is no more than 70°C.
2. Install a stop valve in the water supply pipe. This should be installed in a place that is easily accessible in case of emergency.
3. Clean the water supply pipe completely before connecting the water pipe to the steam engine.
4. It is advisable to install a filter / anti-furring equipment in the water supply pipe.
5. The water pressure should be at best between 1.20 - 1.45 bar pressure (15 - 20 pounds sq. inch). If necessary decrease the pressure accordingly.
6. If necessary install equipment to reduce noise from the unit when producing water.

Steam pipe (6kw & above: 3/4")

1. Do not install any valves in the steam pipes. The steam should never be obstructed.
2. Install a copper steam pipe 3/4" as a connector between the steam outlet and the steam nozzle.
3. The heat insulation material used to insulate the steam pipe should be resistant to temperature as high as 120° or higher.
4. The horizontal part of the steam pipe should be installed inclining to the steam outlet or in the direction of the steam unit. Do not bend or shape the pipe work to ensure that the cooled water does not stay in the curved part of the steam pipe.
5. The shorter the steam pipe, the better. Try to decrease the number of elbows as to avoid too many angles.

Attention: Do not install the steam pipe with up and down bends along the length of pipe as this will affect the output of steam.

Steam nozzle (6kw & above 3/4")

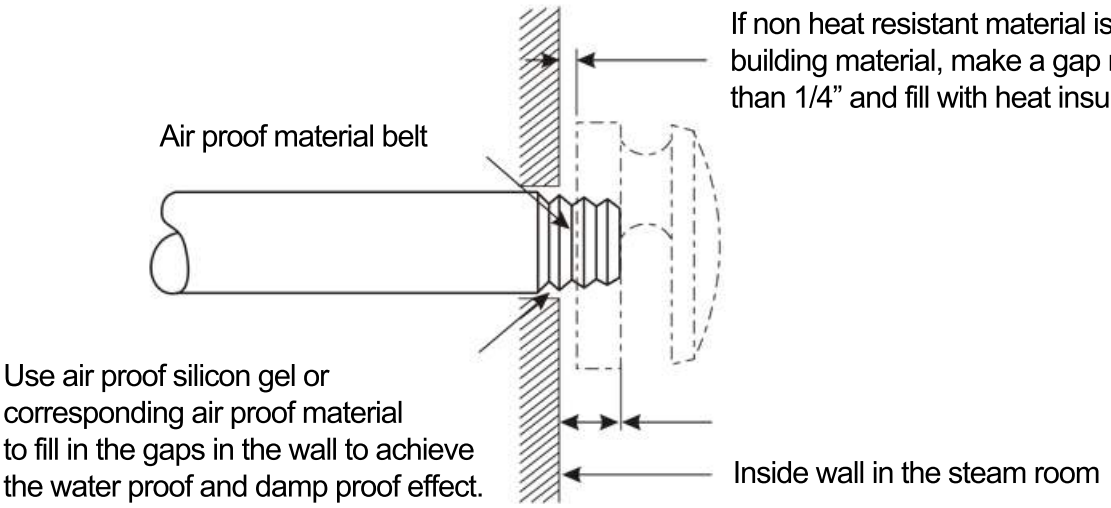
Attention: Since the steam nozzle and steam outlet are very hot, try to avoid installing the steam nozzle in a position which will easily be in contact with the user in case the steam should splash / scald.

1. Install the steam nozzle in a position of 6-12 inches (15 - 30cm) above the ground. If the steam room has non heat resistant materials behind the nozzle install additional heat insulator.
2. The steam spray outlet should be installed face down. Tighten the steam nozzle by hand.

Attention: In order to protect the steam nozzle, do not use a spanner or other tools to tighten. When cleaning do not use abrasive or chemicals, only use a little soap, water and a soft sponge to wipe.

Important: Please consult your distributors of building materials to determine the suitability of the materials used and their insulating properties. It is advised that anti-heat materials are used when installing the steam nozzle.

In the steam room it is required that no steam should be allowed to escape. The pipe work, accessories and any holes in the wall are made air proof by applying air proof glue so that steam does not enter the holes in the wall.



Drain pipe (1/2”)

According to national guides the steam generator drainage valve should be equipped with a drain pipe. The steam unit drains the water by using weight

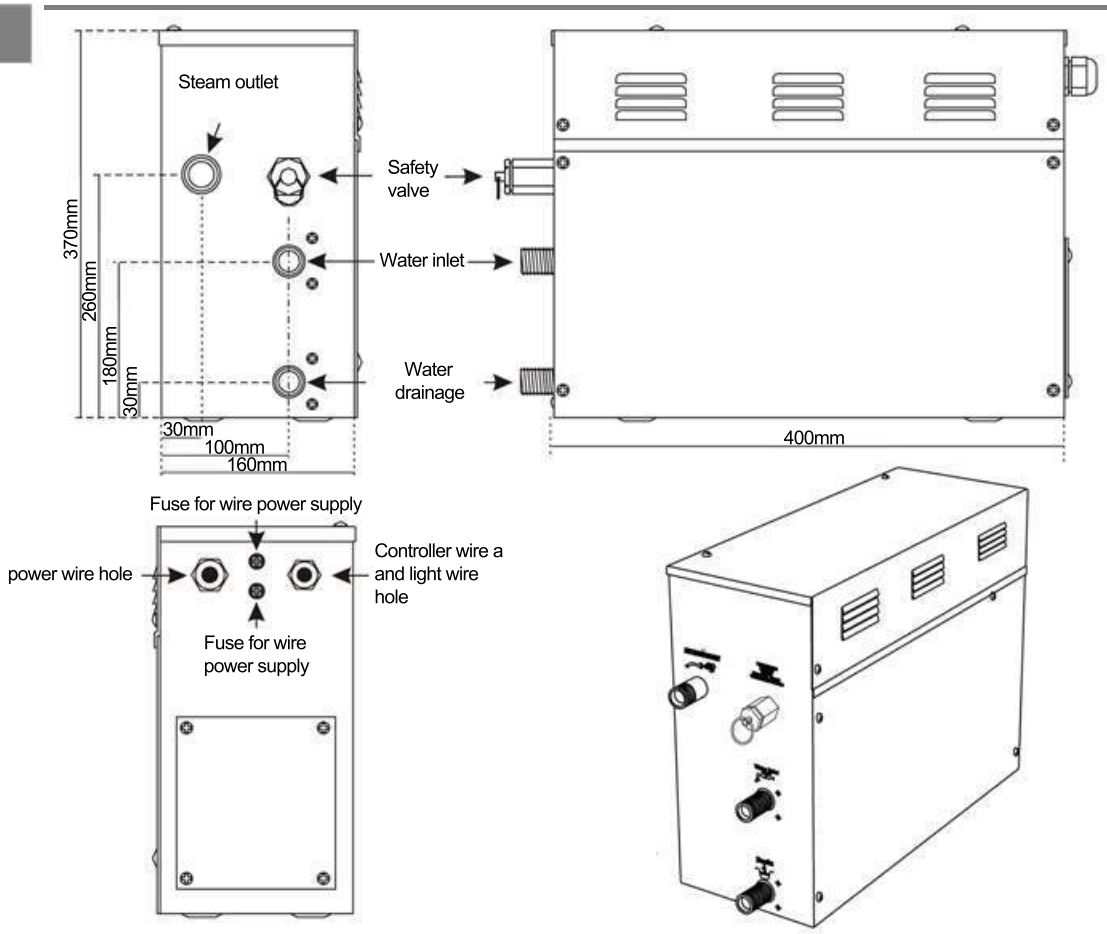
Attention: The drainpipe should not incline upwards so as to allow the facilitate the drainage of water.

Safety valve

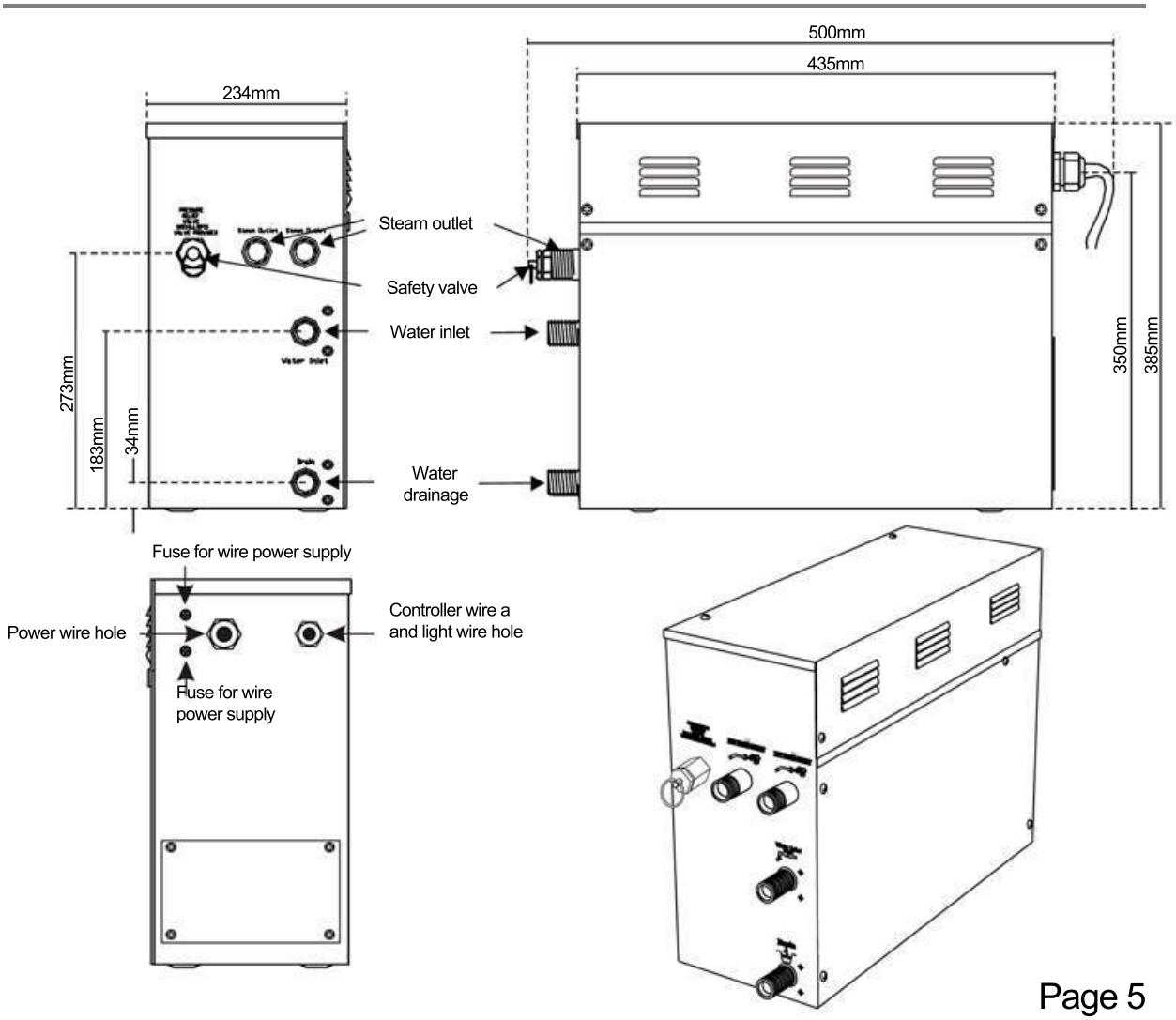
1. The safety valve is a piece of equipment that prevents too much steam pressure building inside the steam unit.
2. The pressure limit range for the safety valve is 15 PSI and will begin to decrease if the pressure should come over this value.

Warning: Do not dismantle the pressure decrease valve at random in case any danger should happen. To maintain the proper and automatic operation of the safety valve make sure that the safety valve connection pipe is smooth.

6kw / 9kw models



12kw model



Electrical requirements

Attention: To avoid damage to the equipment, do not connect strong electric current directly to the components.

Electricity supply circuitry:

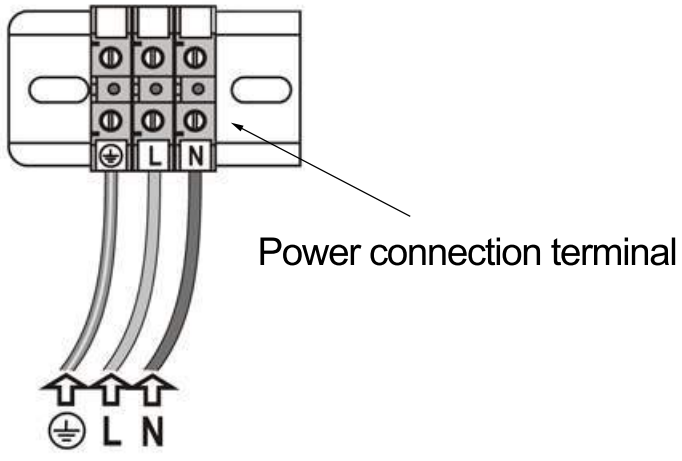
1. Insulated copper wire should be used with an anti-heat temperature of 90°C and a specified voltage of 500V. Refer to national or local electricity consumption code for the specifications. Refer to the ammeter for the ampere.
2. Choose the suitable steam generator unit and plug the ground wire into the ground terminal.
3. Install an independent circuit breaker between the power supply with overflow protection and electricity leakage protection.

Attention: All connections must be in accordance with national and local electricity consumption codes and be installed by a qualified electrician.

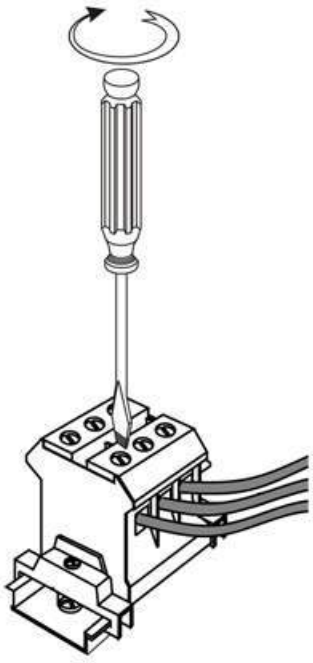
		Ampere Meter		
Model size (kW)	Applicable space of room (m^3)	Electricity supply (1PH)	Max current (A)	Power wire specification (AWG)
6kW	6	220 - 240V	27.3A	10# or 6.0mm^2
9kW	9	220 - 240V	41A	8# or 8.0mm^2
12kW	12	220 - 240V	55A	6# or 10.0mm^2

Within close proximity to the steam unit, install an independent circuit breaker so as to provide an electricity supply with overflow protection and electricity leakage protection.

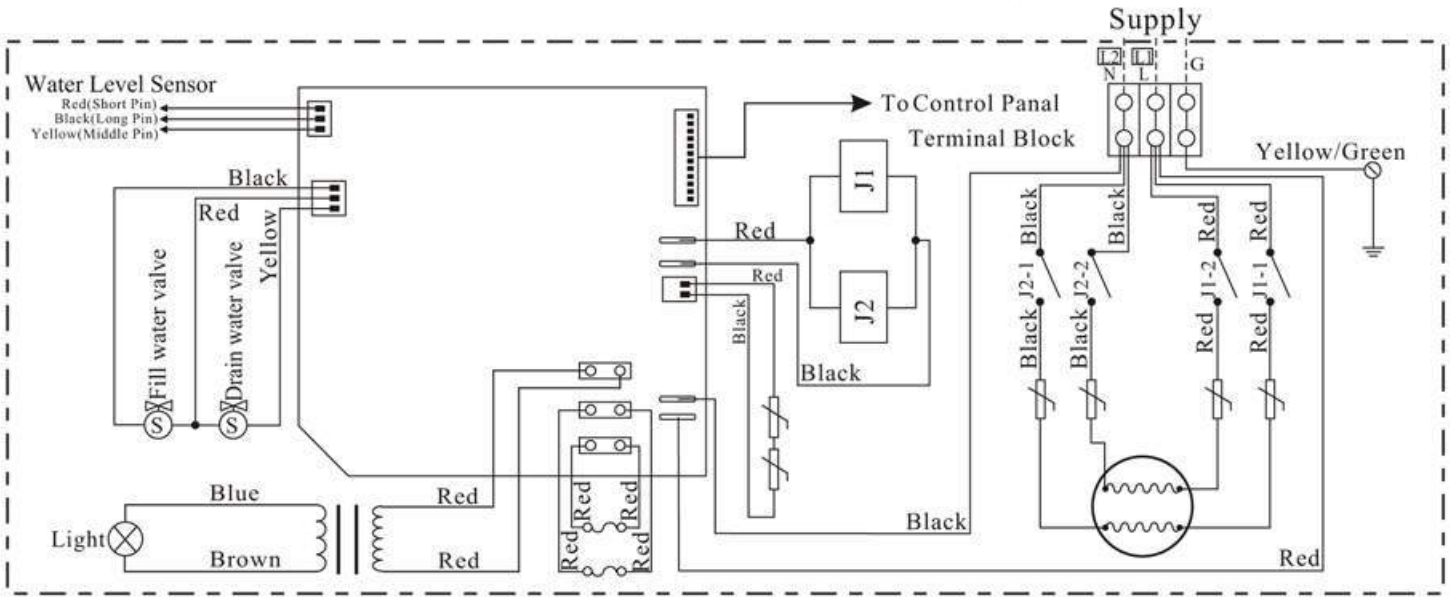
Assembly drawing for power wire



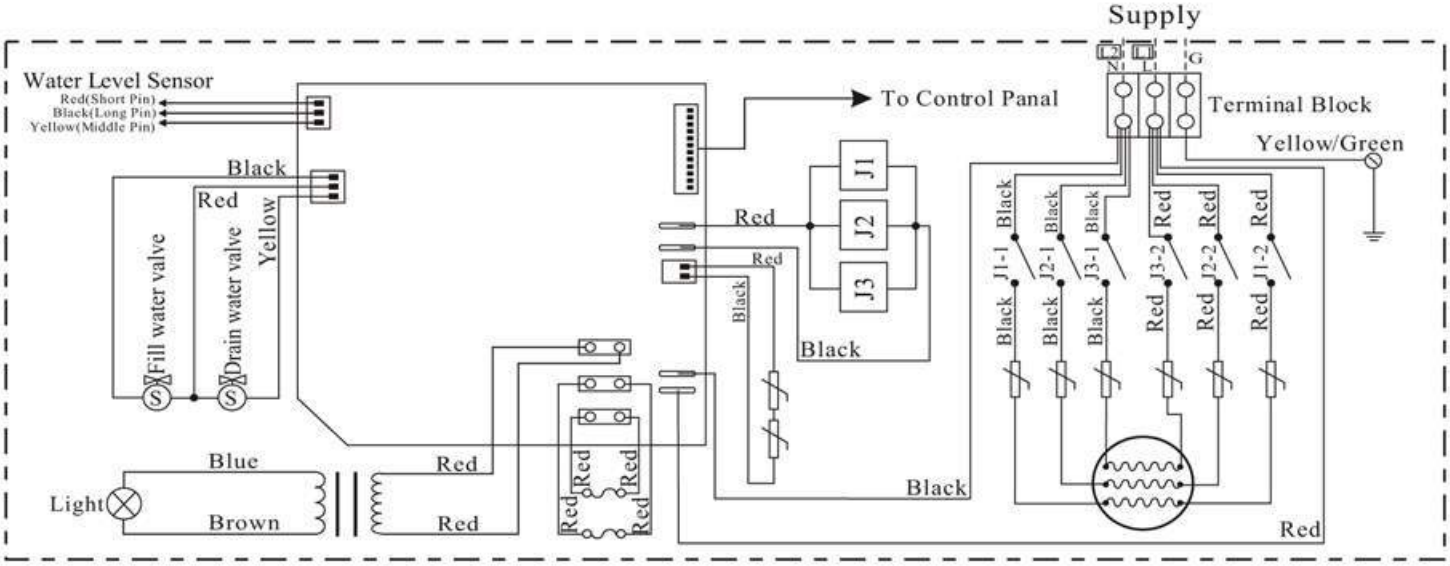
(6 / 9 / 12kW)
(220 - 240V - 1PH)



6kW / 9kW GENERATOR UNIT



12kW GENERATOR UNIT



Installation of a top light

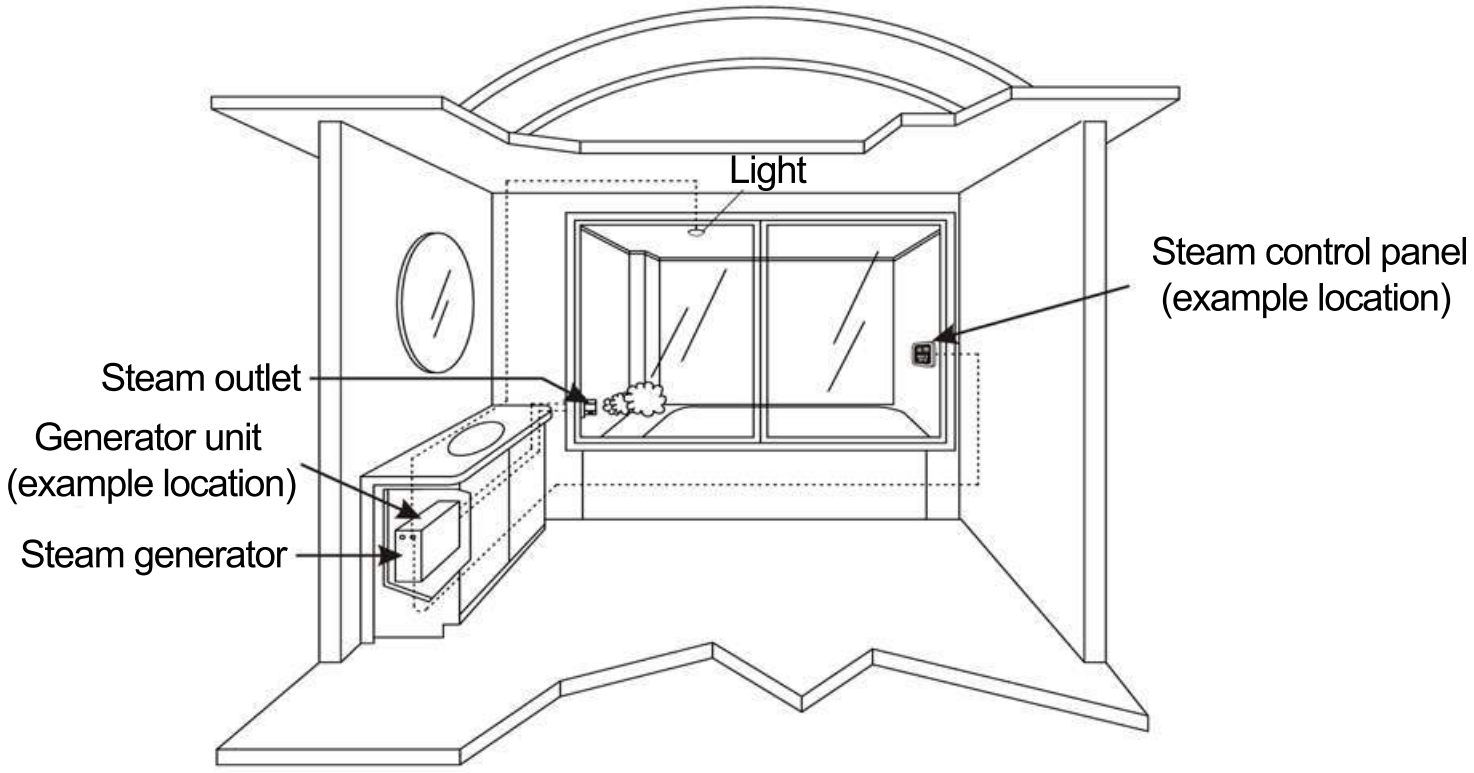
Caution:

Lights are available in 12V / 220V / 240V outputs. Before connecting a light please consult with the relevant manufacturer to know what voltage the light is, so as to avoid generator damage or cause danger.
If the light output is 12V, the power of the light should not be more than 35W, otherwise the transformer will be burned and cause danger.
If the light input is 220- 240V the power of the light should be not more than 100W.

The light should be installed on top of the steam room or in a place that is not accessible to children.

Caution:

Take measures to ensure that the fitting is moisture proof on installation. Do not let the electrical components be exposed to moisture or damage may be caused or a short circuit.



Caution:

The illustration is just for explanation purposes, the practical installation must comply with the nations electric criteria and installed by a qualified electrician.

Multiply room **Length** _____ x **Width** _____ x **Height** _____ = **Room volume**^{3}

Adjustments to room volume

Ceramic tile	x 1.25
Glass tile / gloss block	x 1.50
Porcelain tile	x 1.75
Natural stone (limestone / marble)	x 2.00

Example room 1

Multiply room Length 1.4m x Width 1.1m x Height 2.4m = 3.70m^3
Adjustment if installing ceramic tiles x 1.25
New room volume = **4.63m^3**

Recommended steam room generator - **6kW**

Example room 2

Multiply room Length 1.8m x Width 1.2m x Height 2.6m = 5.62m^3
Adjustment if installing natural stone x 2.00
New room volume = **11.24m^3**

Recommended steam room generator - **12kW**

Attention:

The table shown above should be referred to for guidance only. Please note that the size of generator required to heat a particular size of steam room will vary according to a number of factors including the type of material used for construction, the height of the steam room and the ambient temperature.

Materials such as plastics and laminates are lightweight and 1kW will heat up to 1 cubic meter of air. Materials that are dense such as stones and ceramics will conduct the heat away more rapidly. When using these materials allow up to 2kW per cubic meter of air.

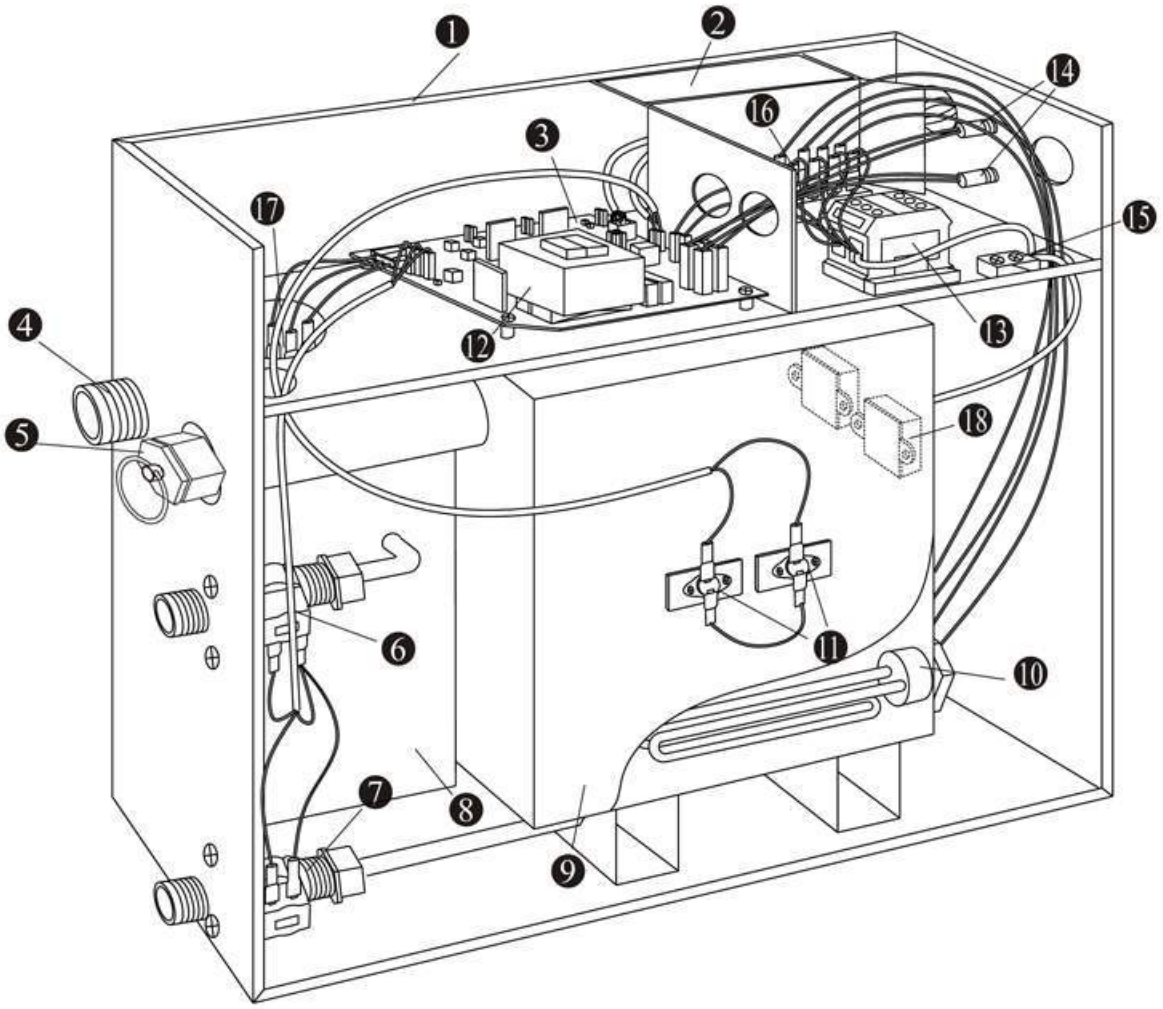
The above table is given as a guide; ambient air temperatures and frequency of use (number of door openings) can also affect the power requirements.

Maintenance of the steam generator

Attention: Perform water discharge operation after each use.

1. Wait for the completion of water discharge after each time of using the steam engine to make sure the water tank is discharged completely before cutting off the water supply.
2. There should not be any leakage or damage among the steam engine, steam nozzle, components and pipes. They should be checked and repaired annually.
3. Clean the water supply pipes of the steam engine once a year.
4. Check all the connections, joints and connection terminals to see whether they become loose or damaged due to over heating.
5. Check the furring accumulated in the water tank and electric elements. If the furring is thick, use a solution of diluted citric acid to soak elements for 15-30 minutes.
6. Remove the water level sensory needle once a quarter to clean any furring in the needle.

Steam generator structure drawing



1. Casing
2. Insulation 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. 105°C Hi-limit

Trouble shooting guide

Please use the below guide for guidance on resolving basic problems that may occur on the steam generator

Problem	Cause of problem	Resolution
Generator unit has power but does not start.	1. The fuse is burned. 2. The wire connection terminal becomes loose. 3. Bad contact in the wire between the controller and the steam unit.	1. Change the fuse (on the shell 0.8A / 250V). 2. Tighten the wire connection terminal. 3. Make sure the generator and controller have a good connection.
Electricity leakage switch breaks automatically.	1. The wire connector is dampened or damaged. 2. The heating tube breaks.	1. Check whether the wire connector is dampened or damaged, and dry with dryer if dampened. 2. Change a heating tube.
When the unit is started, 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 correctly or have good contact. The connection between the control panel and the electrically controlled box is loose. 2. Trouble with plugboard.	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. 2. Change the plugboard
Water leakage	1. The water pipe connector becomes loose or the pipe breaks. 2. Water leakage in the water input valve or the water drainage valve.	1. Tighten the loose connector and 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. The set temperature is too low. 4. Trouble with wire.	1. Check the power supply 2. Change the water input pipe and water input valve. 3. Reset the temperature 4. Contact the distributor.
The steam does not come out, the water sounds in the machine.	1. The steam pipe is jammed.	1. Cut the power supply to check the steam pipe is smooth.
The light does not turn on	1. The fuse is burned. 2. The light is broken 3. The wire is broken 4. The plug does not have good contact.	1. Change the fuse (on the shell 1A / 250V) 2. Change the light bulb. 3. Change wire. 4. Make a good connection for the plug.
The display box displays normally with no steam.	1. Too much pressure inside the steam engine so the system breaks for heat protection. 2. Wire is broken for heat protection	1. Check the steam transport pipe and restore automatically after heat protection becomes cool. 2. Check the heat protection wire to make sure the connection is good.

Specification

Power Output	6kW	9kW	12kW
Potency Error	±10%	±10%	±10%
Duration	>1500V	>1500V	>1500V
Resistance	>20MΩ	>20MΩ	>20MΩ
Steam Pressure	0.14MPa	0.14MPa	0.16MPa
Steam Volume	180	260	360
Steam Production Time	100-160	80-130	150-160
Water Tank Volume	5.7L	5.7L	12L
Applicable space of the room (m^3)	5~8	10~12	14~16

Important: The parameters listed will vary depending on the place and temperature, please consult a qualified electrician for detailed use.