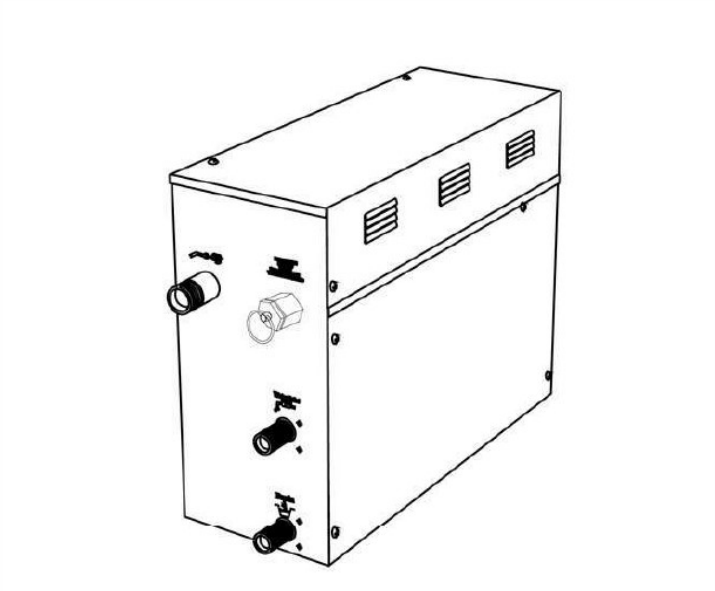
STEAM ROOM GENERATOR

OPERATION & INSTRUCTION MANUAL

6KW/9KW/12KW



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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.

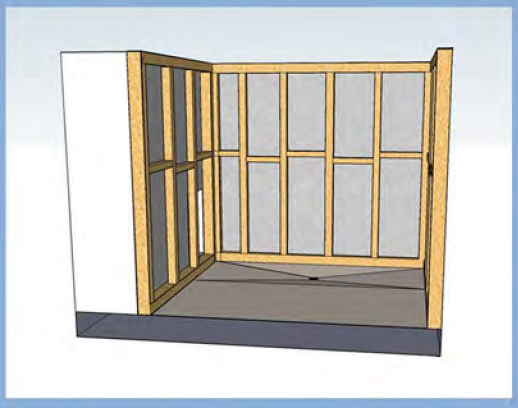


Fig .2

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

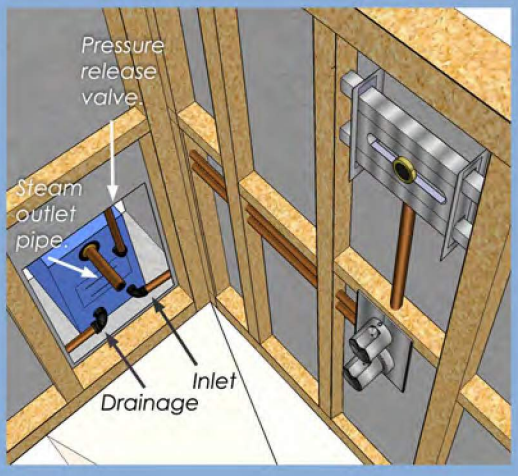


Fig .3

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.

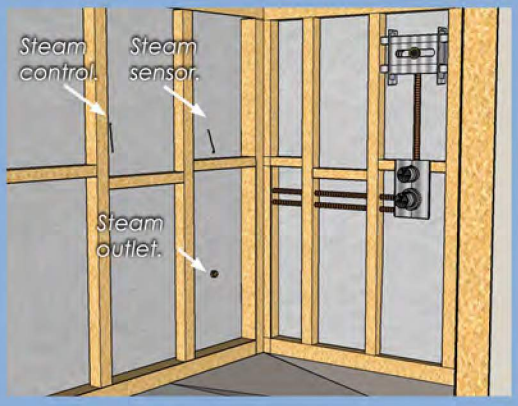


Fig .4

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.

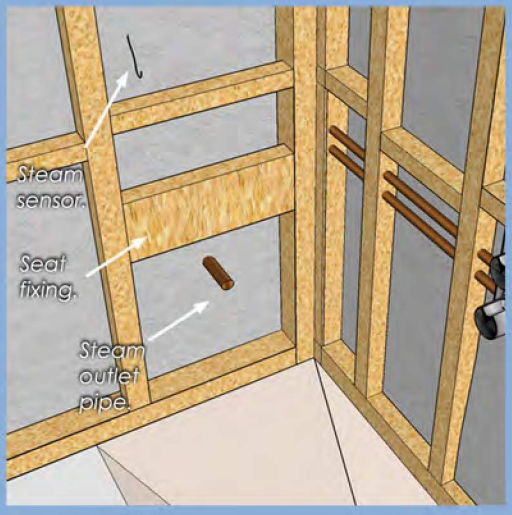


Fig .4

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

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

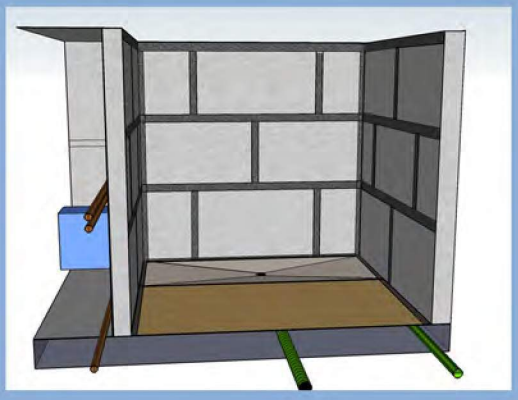
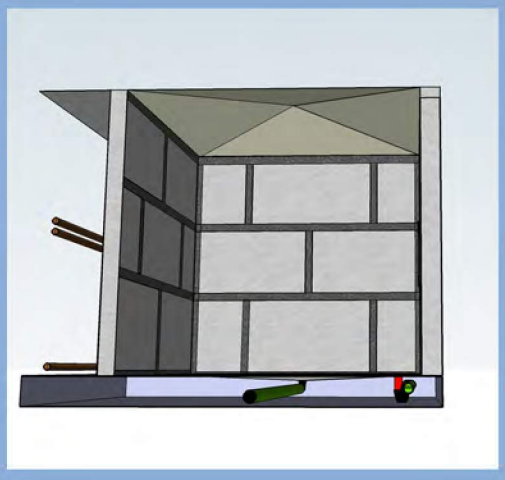


Fig .6

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).

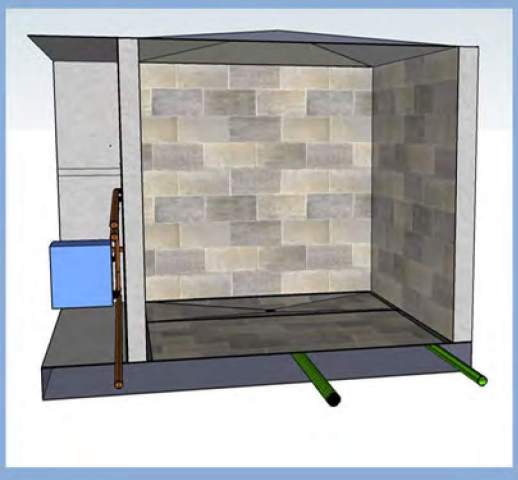


7 - Construct sloping ceiling.

A Sloping ceiling is required to stop dripping condensation.

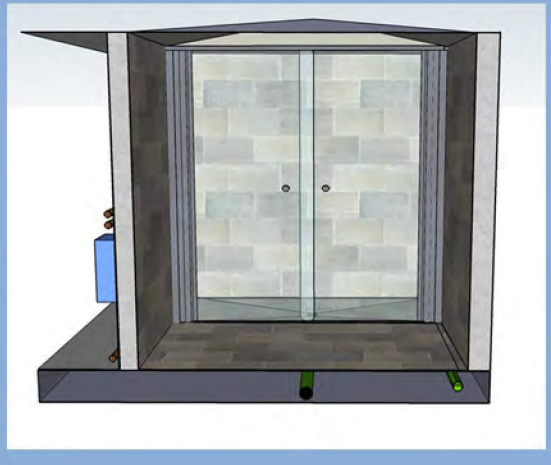
The ceiling can be constructed sloping in al 4 directions (as shown), or in a “^” , 2 direction slope.

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!

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 pressure. Well built, very stable and easy to install, makes this steam generator a great choice for a healthy, comfortable steaming experience. Benefits such as pain relief, weight control, skin stimulation and stress reduction due to the increased blood circulation, makes this generator an ideal choice for the modern family.

Livinghouse offer 3 generator kit sizes of 6kW, 9kW and 12kW to cater for most situations.
With a choice of 2 controllers one with a music system which includes 2 stylish speakers and second designer digital controller with touch functions but without the 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.

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 power is suited to the steam room dimensions. Pay attention to the steam room's cubic meterage and construction. If unsure, please refer to Page 9 about 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 untrained installation or the operation procedures which are not followed as per the user manual.
5. **Living**house 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 2 days
6. This product is intended for internal use only.

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

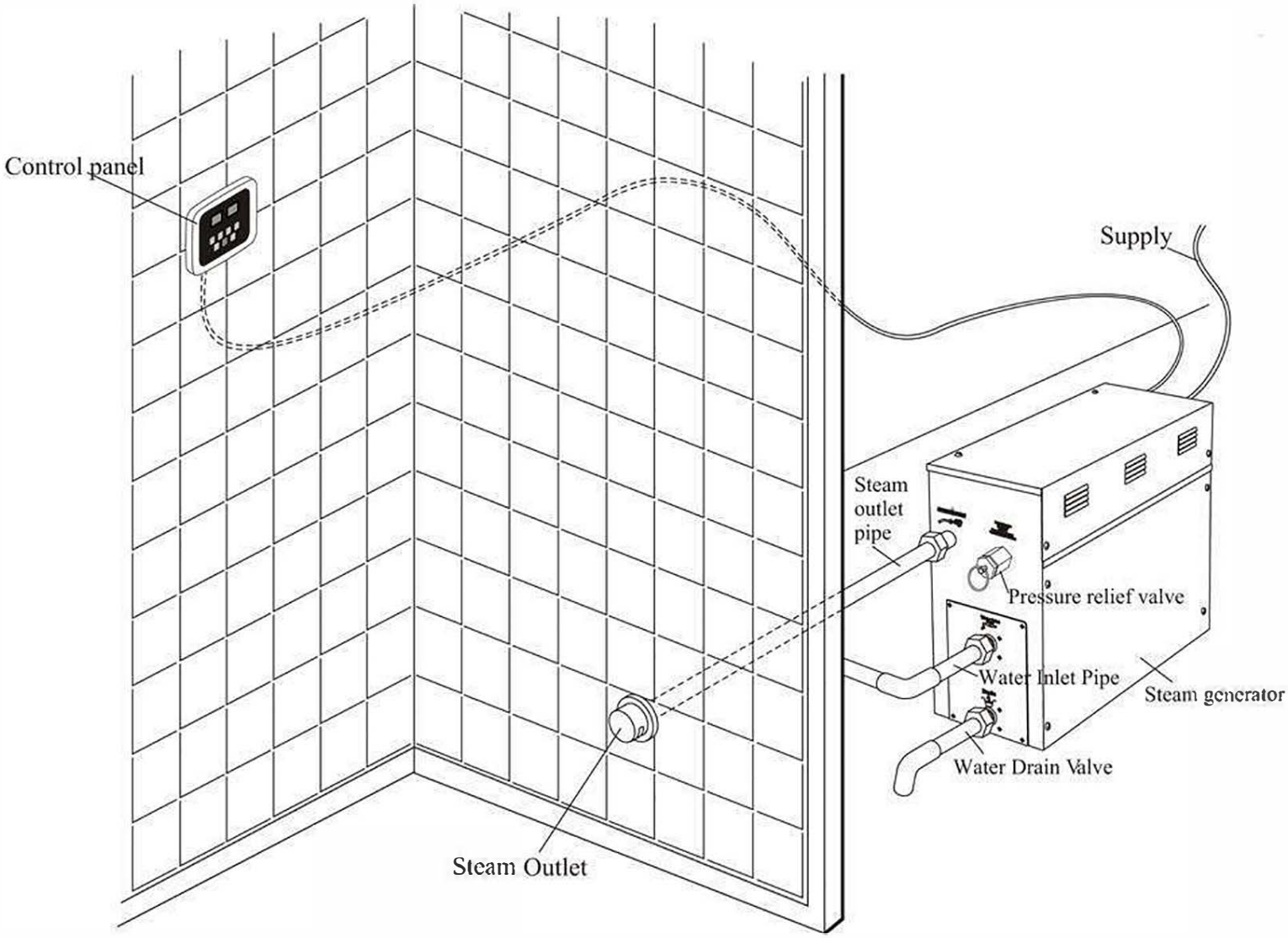
Below are the recommended guidelines for the steam room generator and accessories.

1. The distance from the generator to the steam room should be no more than 6m.
The distance from generator to controller should be no more than 6m.
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 and drafty loft or any place where water may freeze.
5. Do not install near burnable, caustic objects or chemicals.
6. Install in a dry place with good ventilation.
7. The generator must be installed securely and upright. 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 space of at least 12 inches (30cm) must be allowed.
9. Easy access to the machine must be allowed for maintenance.
10. The machine must be installed to allow the draining of water with a negative gravity fall.
11. The steam pipe, safety valve, drain valve, water pipe, steam outlet are still hot for some time after the generator has finished its cycle it is wise to insulate where possible with heat resistant materials. Take special care around the hot 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.



Installation of pipe work

Warning: The installation of all the pipes should be carried out by qualified plumbers with the correct operation certificates in accordance with national requirements.
Please note: Warranty is subject to correct and professional installation

1. Use joints when connecting pipes.
2. Use copper 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 isolating 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 generator. Failure to do so may cause blockage in the inlet valve.
4. It is advisable to install a filter / anti-limescale equipment on the water supply pipe.
5. The water pressure should be between 1.00 - 1.40bar pressure (15 - 20 pounds sq. inch). If necessary adjust the pressure accordingly.
6. If necessary install equipment to reduce the noise from the unit when producing water.

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

1. Install a copper steam pipe 3/4" as a connector between the steam generator and the steam nozzle.
2. The heat insulation material used to insulate the steam pipe should be resistant to temperature as high as 120° or higher.
3. 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 allow "U" bends or shape the pipe work in a way which will allow condensed water to form a trap in the steam pipe.
4. The shorter the steam pipe, the better. Try to decrease the number of elbows as to avoid too many steam restricting angles. Manufacturers recommend 2, 3 max.
5. The shorter the steam pipe, the better. Try to decrease the number of elbows and avoid abrupt turns. Maximum recommended length is 6m including any elbows.

Attention: Do not install the steam pipe with up and down bends (form "U" trap) along the length of pipe as this will affect the output of steam.

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

Attention: Since the steam nozzle outlets are very hot, try to avoid installing it in a position where it is easily accessible to the user in case the steam, hot water or splash scalds.

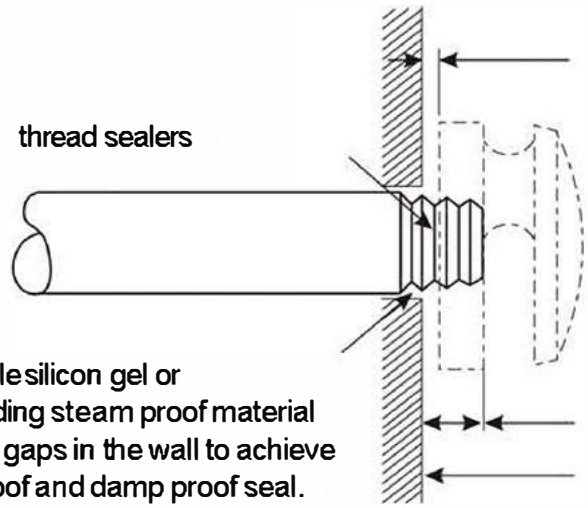
1. Install the steam nozzle 6-12 inches (15 - 30cm) above the floor. If the steam room has non heat resistant wall covering behind the nozzle, place a 6mm insulated material between nozzle and wall.
2. The steam spray outlet hole should be installed face down. Tighten the steam nozzle by hand.

Attention: In order to protect the steam nozzle, do not use a spanner or other tools to tighten. When cleaning do not use abrasives 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 heat proof materials are used when installing the steam outlet 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 should be made steam proof by applying suitable fillers, so that steam does not enter into the fabric of the walls.



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 gravity

Attention: The drainpipe should alway incline downwards to allow gravity drainage of water.

Safety valve

1. The safety valve is a piece of equipment that prevents too much steam pressure building up inside the steam unit.
2. The pressure limit range for the safety valve is 15 PSI and will release pressure should this value be exceeded.

Warning: Do not dismantle the pressure decrease valve for safety.

Recommended steam pipework for descaling and easy maintenance of generator.

For horizontal pipework.

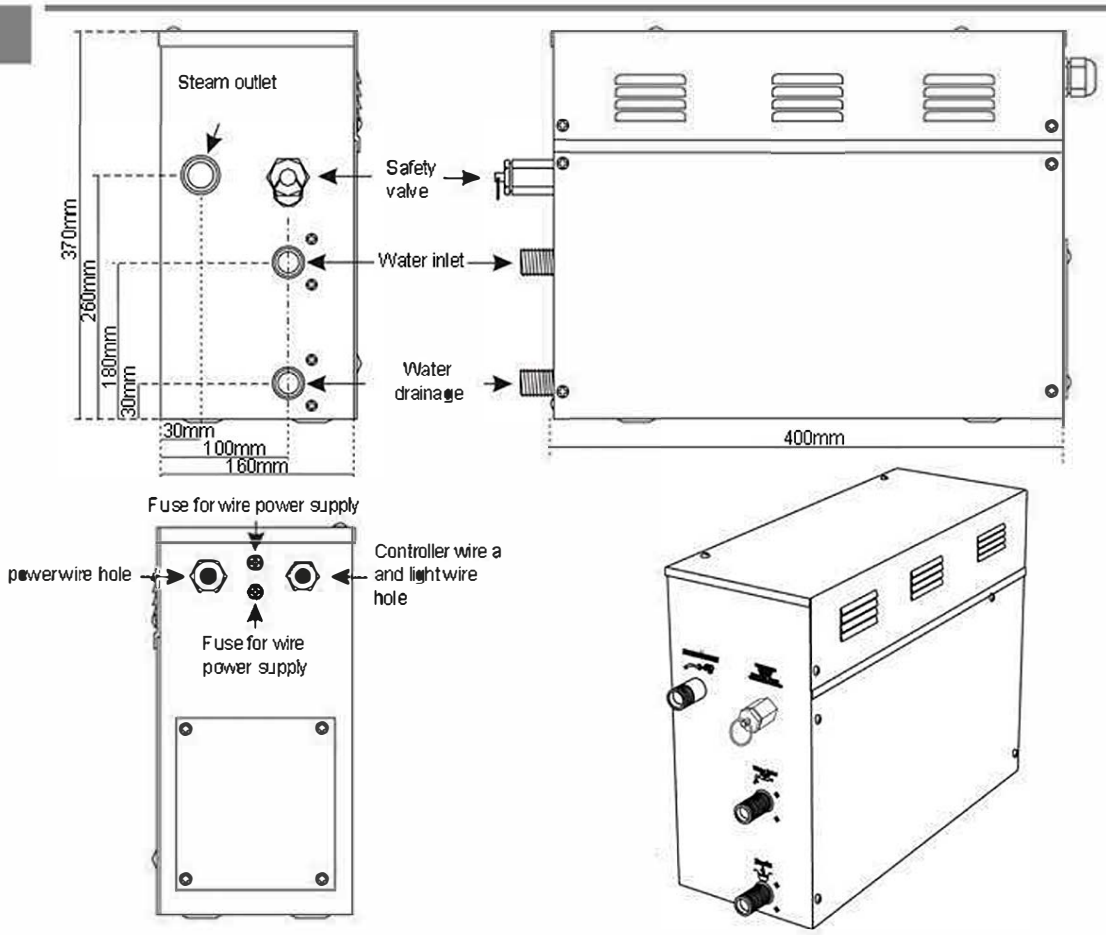
For vertical pipework.

Water softener filter recommended for hard water areas.

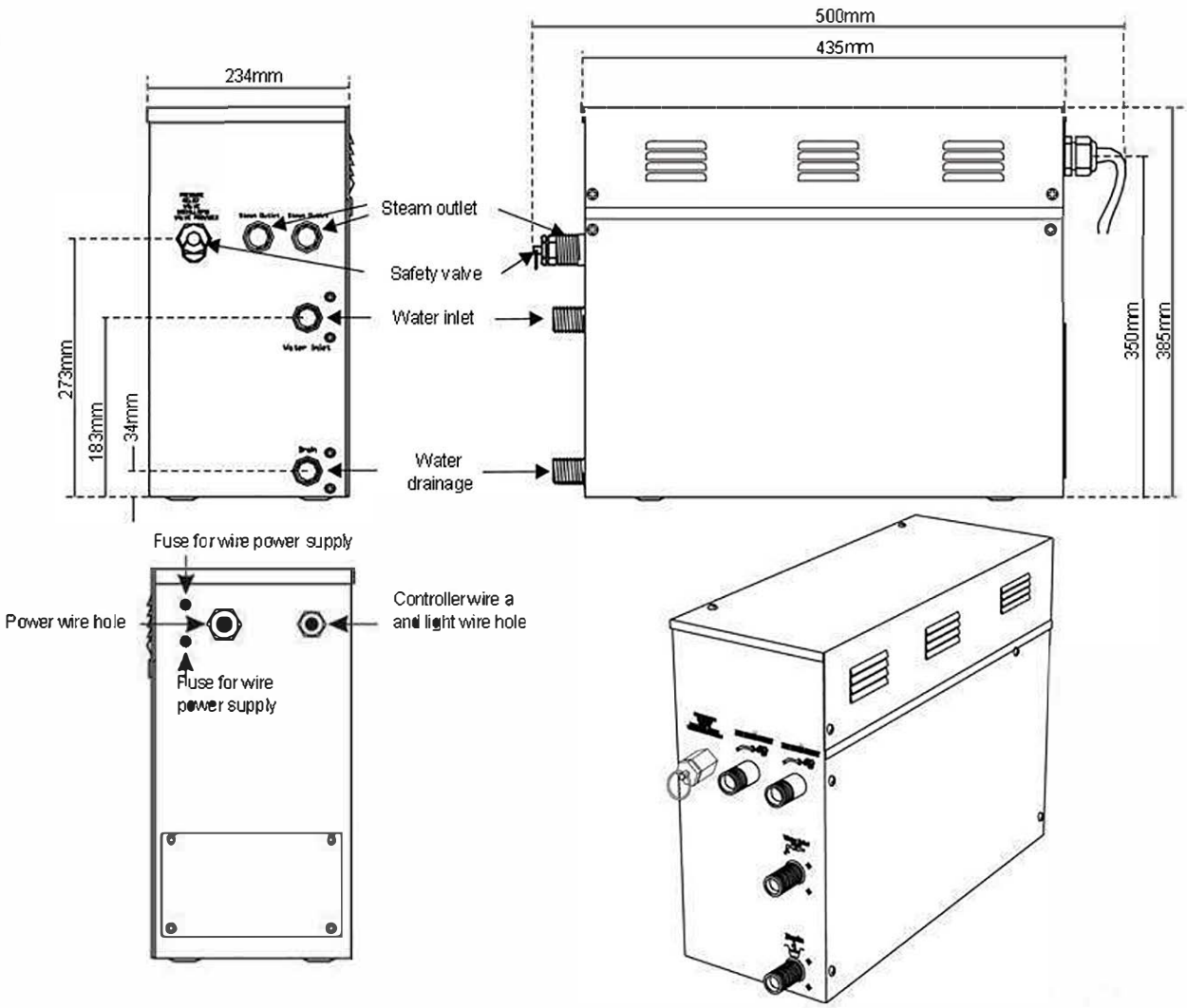
Recommended:
Use flexible pipe for water inlet.

Blueprint for steam generators

6kw / 9kw models



12kw model



Electrical requirements

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

Electricity supply circuitry:

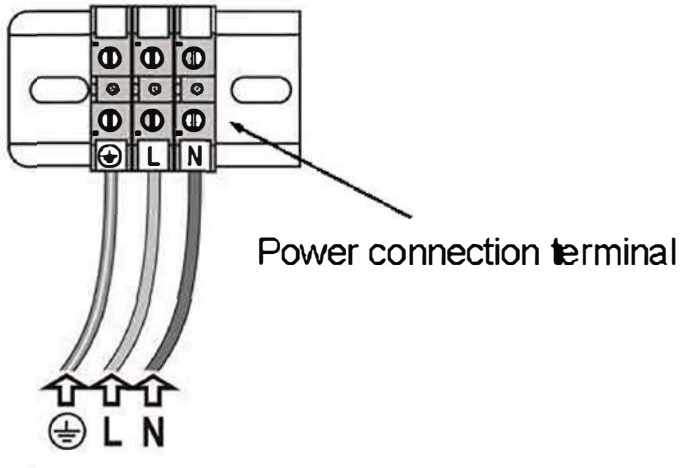
1. Insulated copper wire should be used with an anti-heat temperature of 90°C and a specified voltage of 500V. Refer to national or local electricity consumption code for the specifications. Refer to the ammeter for the ampere.
2. Choose the suitable steam generator unit and plug the earth wire into 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.

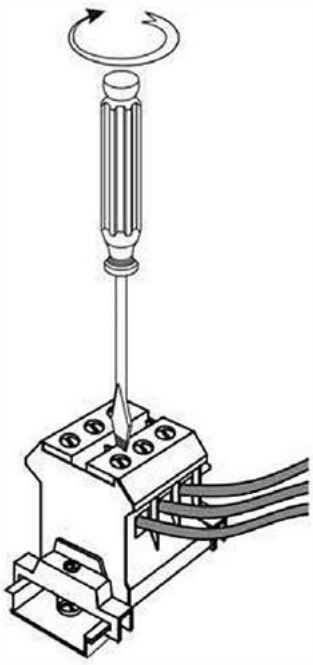
Model size (kW)	Applicable space of room (m^3)	Ampere Meter: Electricity supply (1PH)	Ampere Meter: Max current (A)	Ampere Meter: Power wire specification (AWG)
6kW	6	220 - 240V	27.3A	10# or 6.0mm^2
9kW	9	220 - 240V	41A	8# or 8.0mm^2
12kW	12	220 - 240V	55A	6# or 10.0mm^2

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

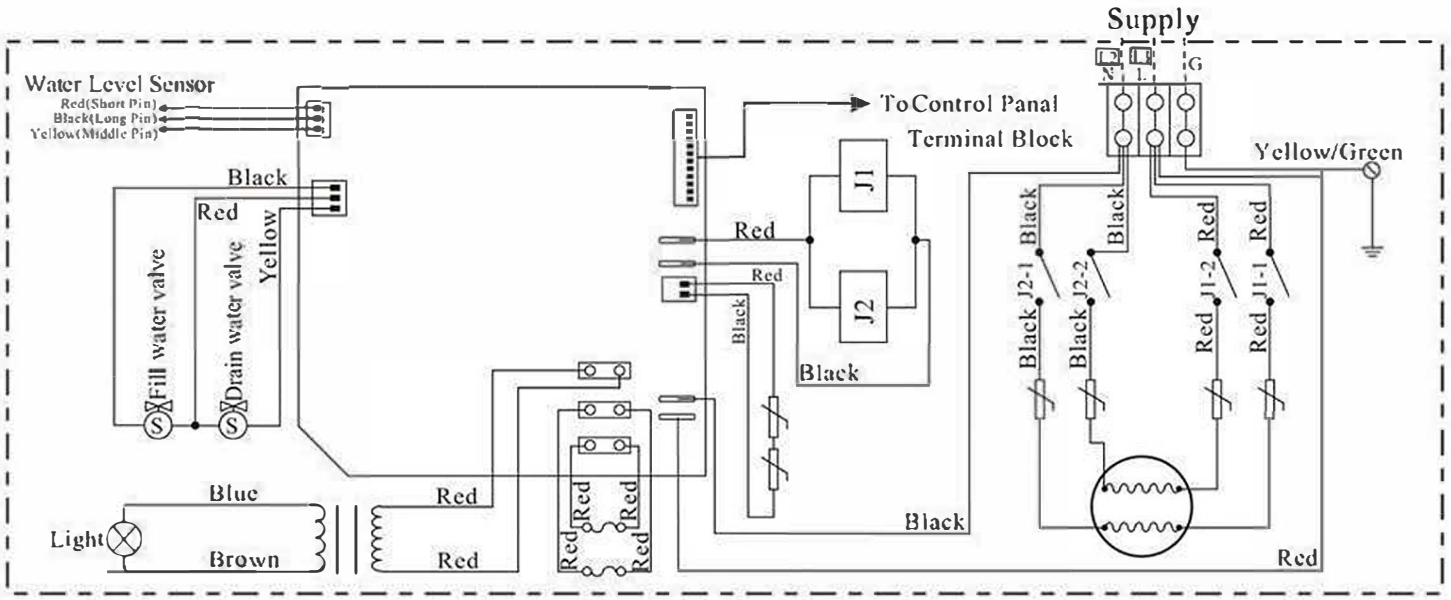


(6 / 9 / 12kW)
(220 - 240V - 1PH)

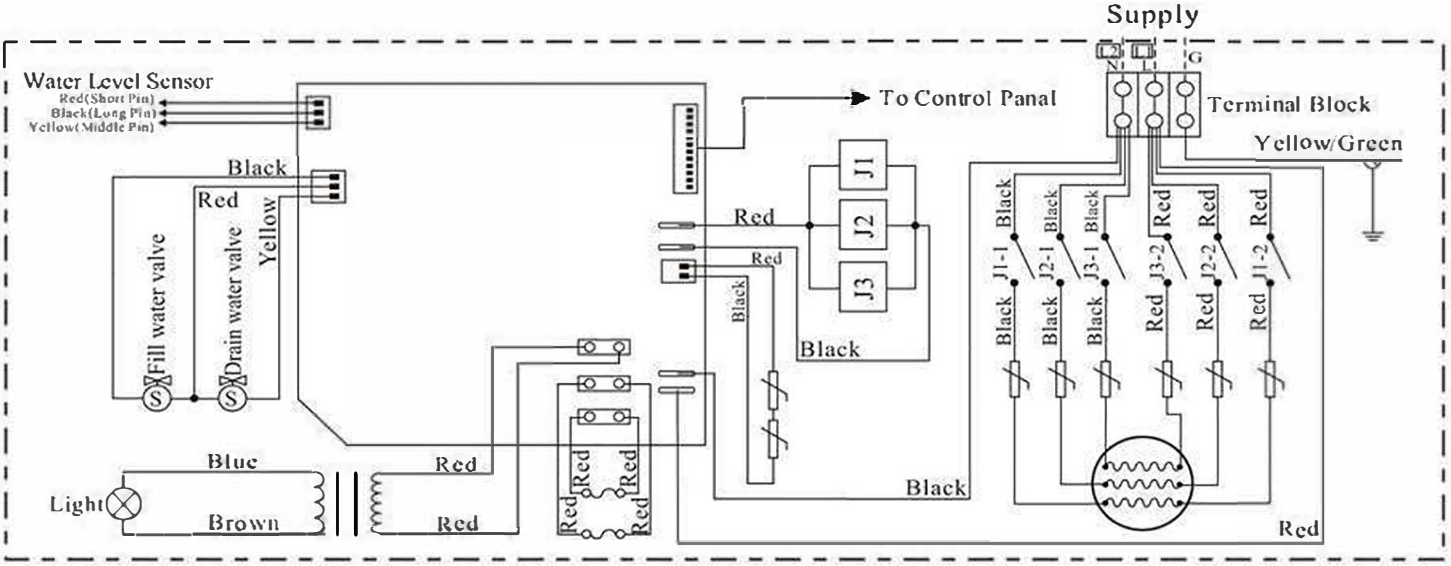


Wiring diagram 220 - 240V (1PH)

6kW / 9kW GENERATOR UNIT



12kW GENERATOR UNIT



Installation of a top light

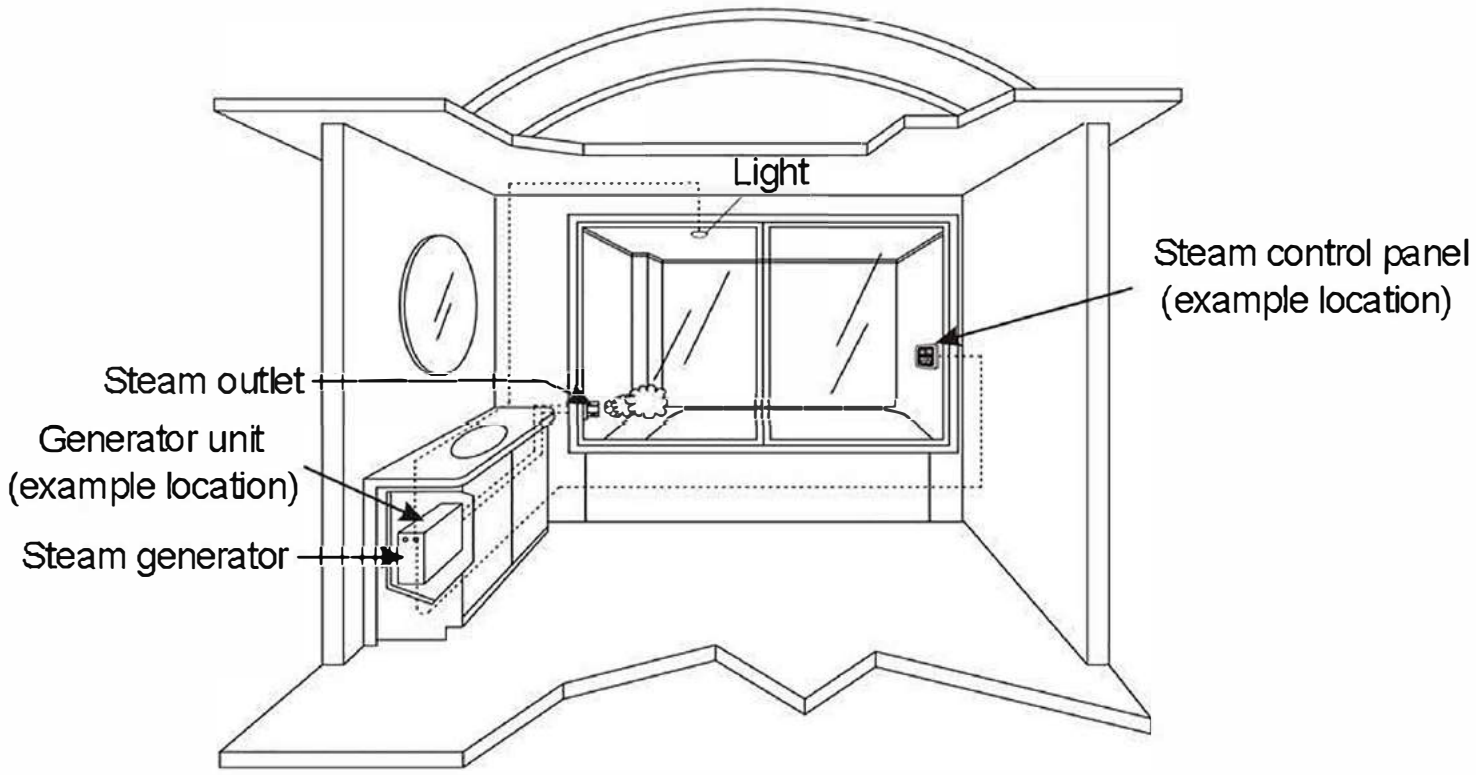
Caution:

Lights are available in 12V / 240V outputs. Before connecting a light please consult with the manufacturer to confirm light voltage to avoid generator damage or cause danger.
If the light output is 12V, the power of the light should not exceed 35W, otherwise the transformer will burn out and cause a danger.
If the light input is 220- 240V the power of the light should be not exceed 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 for example only, the practical installation must comply with the local electrical code of practice and installed by a qualified electrician.

Choosing the correct generator unit.

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

Adjustments to room volume

Ceramic tile	x 1.50
Solid Surface	x 1.25
Glass tile / gloss block	x 1.50
Porcelain tile or Natural stone	x 1.70

Example room 1

Multiply room Length 1.4m x Width 1. 2m x Height 2.4m = 4.03m^3
Adjustment if installing solid surface x 1.25
New room volume = **5.04m^3**

Recommended steam room generator - **6kW**

Example room 2

Multiply room Length 1.8m x Width 1.2m x Height 2.4m = 5.1 8m^3
Adjustment if installing natural stone x1.7
New room volume = **8.81m^3**

Recommended steam room generator - **9kW**

Attention:

The above table should be for guidance only. Please note that the generator size required to heat a particular size of steam room will vary according to a number of factors, including the type of materials used for construction, amount insulation used, 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.

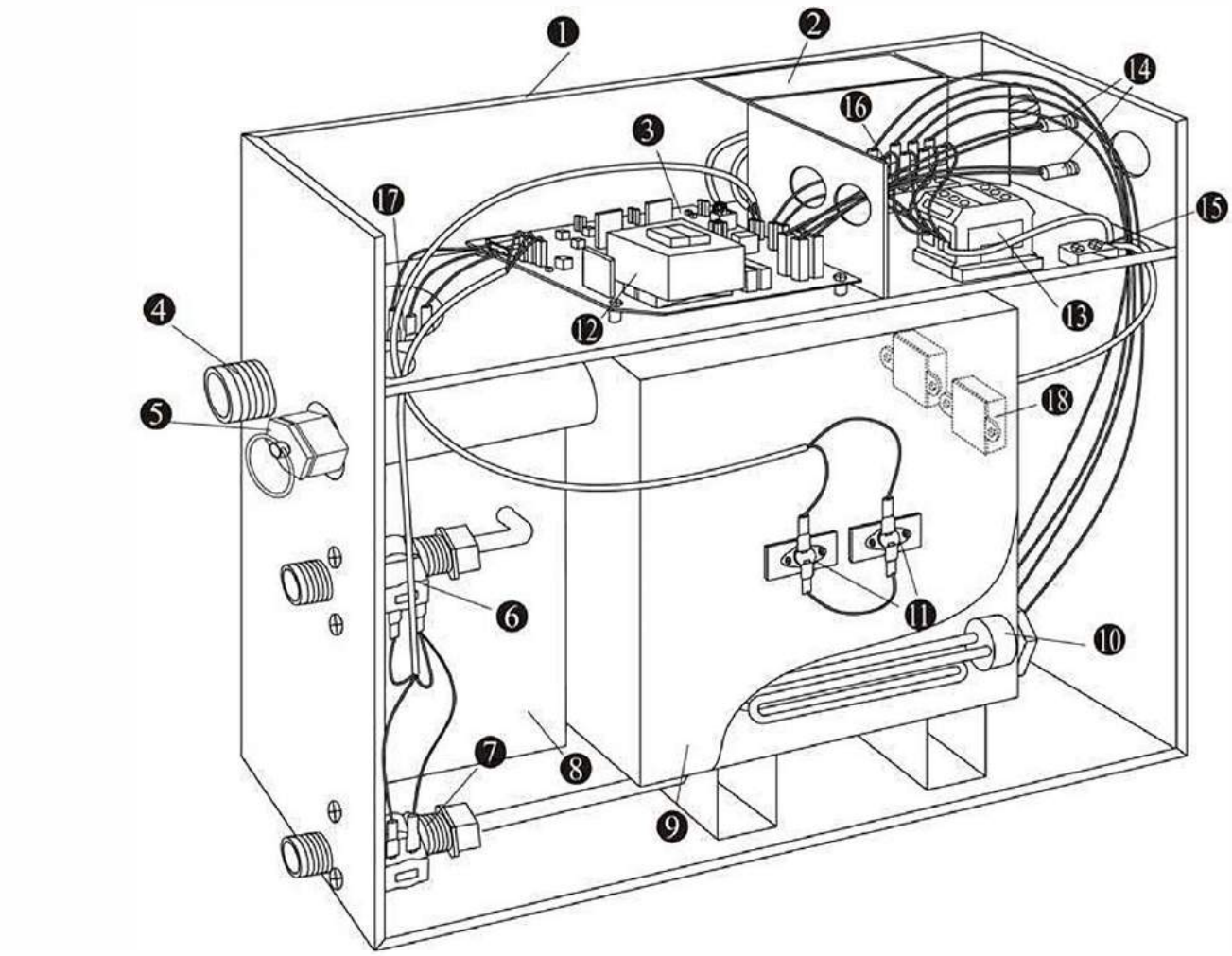
The above table is given as a guide; ambient air temperatures and frequency of use (number of door openings) can also affect power requirements.

Maintenance of the steam generator

Attention: Perform water discharge operation after each use.

1. Wait for the draining generator to finish after each steam cycle to make sure the water tank is completely empty 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 generator once a year.
4. Check all the pipe connections, joints and electrical connections and terminals to see whether they become have become loose or damaged.
5. Check for limescale build up in the water tanks and on the heating elements. If the limescale is thick, use a solution of diluted citric acid to soak elements for 15-30 minutes.
6. Remove the water level sensor probe 6 monthly and clean any limescale build up.

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 blown. 2. The wire connection terminal has become 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 damp or damaged. 2. The heating element are broken.	1. Check whether the wire connector is damp or damaged, repair or dry with dryer if damp. 2. Change a heating element.
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 good connection. The connection between the control panel and the electric control box is loose. 2. Problem with circuit board.	1. Check whether the connection plug between the control panel and the electrical control box has become loose and whether the power circuitry has good contacts. 2. Change the circuit board.
Water leak	1. The water pipe connections have becomes loose or broken pipe. 2. Water leak on the water inlet valve or the water drainage valve.	1. Tighten the loose connection and change the broken pipe. 2. Change water inlet valve or 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 wiring.	1. Check the power supply 2. Change the water inlet pipe and water inlet 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 blocked.	1. Cut the power supply to check if steam pipe is blocked.
The light does not tum on	1. The fuse is blown. 2. The light is broken. 3. The wire is broken. 4. Bad electrical connection.	1. Change the fuse (on the shell 1A / 250V) 2. Change the light bulb. 3. Change wire. 4. Make a good connections.
The display box displays normally but no steam.	1. Too much pressure inside the steam generator so heat protection kicks in 2. Wire is broken for heat protection	1. Check the steam pipe for blockages, machine restores automatically after cooling. 2. Check wire to heat protection sensor to make sure the connection is good.

Error code	problem	solution
E 1	Water level detect failure	Check the cable connection to the water level sensor is not loose. If ok, de-scale sensor rods or replace with new water level sensor.
E 2	temperature sensor short circuit	Replace with new keypad.
E 3	temperature sensor open circuit	Check the cable connection between the keypad and the TEMP sensor cable, make sure connection is good and dry.
E 4	no water into tank within 4minutes	Check whether the water inlet pipe is blocked and clean if required, if OK, suggest to check whether the water inlet valve is working. If valve is not working, replace with new water inlet valve.
E 5	Communication failure between steam generator and keypad.	Check cable connections between the keypad and generator.

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.