

Sauna & Steam

Heavy Duty Commercial
OCD STEAM GENERATOR
with OSX Controls
Assembly and operating manual



26.08.20



## **Table of contents**

1.	Introduction					
2.	Important Notes	3				
3.	Safety Precautions	3				
4.	Steam Generator Parts	4				
5.	Electrical and plumbing connections					
	5.1. Connections diagram and table	7				
	5.2. Steam Pipe Connection Options	9				
	5.3. Electrical connection schematic	9				
	5.4. Circuit Diagram	0				
		0				
6.	Parameters	1				
	6.1. Steam Generator Frame Sizes	1				
	6.2. Clearance distances	1				
	6.3. Ventilation	1				
	6.4. Table 2. OC-D Controller Parameters	2				
	6.5. Temperature Sensor Parameters	2				
7.	Installation	3				
	7.1. Generator Size	3				
	7.2. Steam Generator Location	4				
	7.3. Water and Steam Connections	5				
	7.4. Installation for controller and temperature probe	5				
	·	6				
		6				
	3 3	6				
		6				
8.	Steam on Demand Function	6				
	8.1. Display and Buttons	7				
	8.2. Turning On/Off	7				
	8.3. Time and Day	8				
	·	8				
	- ,	9				
		20				
		20				
		21				
	3	21				
9.	Troubleshooting guide	1				
10.	Maintenance					
11.	Guarantee	2				



#### 1. Introduction

- Thank you for choosing to buy our Oceanic steam generator, please take the time to read these instructions before you begin as they contain important information about the installation and maintenance requirements.
- "Oceanic" heavy duty steam generators are available in specifications from 6kw to 12kw and are equipped with a programmable thermostatic controller. The controller is set with the time and day and allows you to program the generator to turn on and off automatically when you require, the generator can also bet set to clean itself automatically. Once these settings have been saved
- the machine can be left to work on it's own. The machine still must be checked on a regular basis for safety.
  - It is also possible to have the generator working off a push button which you place outside of the steam room, when customers push the button it illuminates and they get 30 minutes of steam.
- The machine can also just work on a count down timer for say the next 90 minutes.

  Our display tells you everything that the generator is doing, if it takes in water, heats, reached temperature, draining, descaling, light on, fan on, timer set.
- You can also Lock the keys so other users can't play with the settings. light of the steam room, the automatic drain valve, key-lock, alter the temperature display between Centigrade and Fahrenheit; as well as displaying the steam generator's status by the 8 LED's on the panel, heating, water inlet, temperature, drain status etc. note also that one "OC-D" controller can control multiple "Oceanic" steam generators.
- Every "Oceanic" steam generator is thoroughly tested before leaving the factory so there may be the remains of water inside the boiler.

## 2. Important Notes

- Read the manual before installation and operation.
  - This Equipment must be installed by competent person.
  - This equipment must be connected to an all pole isolator
  - Disconnect the power supply before exposing electrical connections.
  - Confirm the correct voltage to your steam generator 1 or 3 phase.
  - For hard water areas please use a water softener.
  - Water supply must have maximum of 1 bar pressure, we recommend the use of a pressure reducing valve if necessary

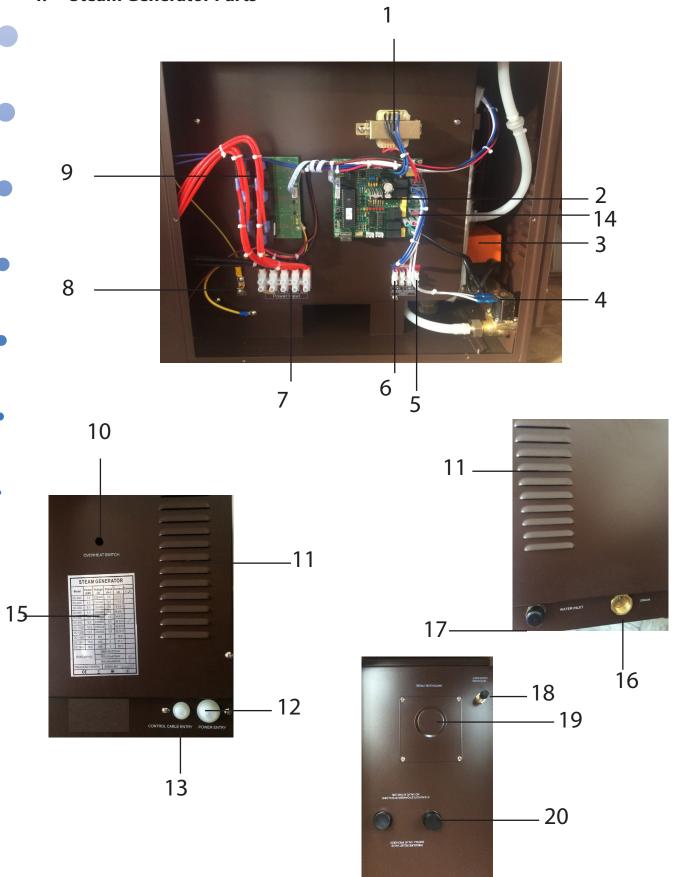
## 3. Safety Precautions

- Elderly persons, pregnant women, or these suffering heart disease, high blood pressure, diabetes or not in good health are advised to seek medical opinion before using a steam room.
- Do not smoke in the steam room.
- Avoid using the steam room immediately after strenuous exercise.
- Do not use the steam room when under the influence of alcohol.
- Leave the steam room at once if you feel sleepy, sick or uncomfortable.
- Ensure there is good ventilation for the steam room.
- We do not recommend that children under 16 use this product.
- Commercial operators should post a notice of these precautions in a prominent position.

Steam entering the steam room will be scalding hot; take care to position the inlet nozzle away from where users will sit and/or provide adequate guarding, post a notice to caution



## 4. Steam Generator Parts





No.	Part	Description
1	Transformer	240v - 9v + 12v
2	Main Circuit Board	Control Centre
3	Drain Valve	3/4" Motorised Ball Valve
4	Inlet Valve	240v Brass Solenoid Valve
5	Light Connection	230v Light Output Switched by Keypad Max (100w)
6	Fan Connection	230v Fan Output Switched by Keypad Max (100w)
7	Power In Connection	Terminal for connection of 230 or 400v power.
8	Earth Connection	Earth Connection
9	Relay Circuit Board	Electrically operated switches for elements.
10	Overheat switch	Boil dry protector operates at 105oC Use Pin to reset
11	Louvers	Ventilation
12	Main Power Cable Entry	Cable entry and restraint for in coming power.
13	Control lead entry	Cable entry for control wire and descaling pump.
14	Descaling Pump Connection	Red & Blue Wires with Grey Connector (supplied separately in the box)
15	Information Chart	For info on Model, Voltage, Wattage and Ampage.
16	Drain connection	3/4" Female Brass
17	Water In Connection	1/2 Male Brass
18	Acid Inlet	Hose Nipple for Silicone Descaling Tube Secure with cable tie
19	Water Probe Access	Water Probe Access Plate
20	Steam Outlets	3/4" male steam outlets. Use brass fittings supplied



## **Electrical and plumbing connections**

A qualified electrician will have no problem installing this system with the provided wiring schematic and with the help of the circuit diagram mounted inside the respective control unit. According to the valid regulations, the electrical connection of the steam generator and the control box has to be carried out by an authorised electrician. In case of a warranty claim, you are kindly requested to present a copy of the invoice from the electrician.

Model	Power		rrent nps)	Size (mm)		Steam outlet	Water Inlet	Drain	Nozzle Type	
	Kw	1N~	3N~	L	W	Н	inches	inches	inches	
OCD-60	6	26	8.6	535	260	380	3/4 (1of)	1/2″	3/4"	Red
OCD-90	9	39	13	535	260	380	3/4 (2of)	1/2″	3/4"	Red
OCD-120	12	52	17.3	535	260	380	3/4 (2of)	1/2"	3/4"	Red
OCD-135	13.5	59	20	535	260	380	3/4 (2of)	1/2″	3/4"	Red
OCD-150	15	66	22	535	260	380	3/4 (2of)	1/2″	3/4"	Red
OCD-180	18	78.5	26	535	260	380	3/4 (2of)	1/2″	3/4"	Red

**Temperature Sensor** 

5m DIN cable main circuit board to controller



**OSX Control Screen** 



**Descaler Pump** 





3/4" Steam outlet



Pressure relief valve

Steam Inlet Nozzles



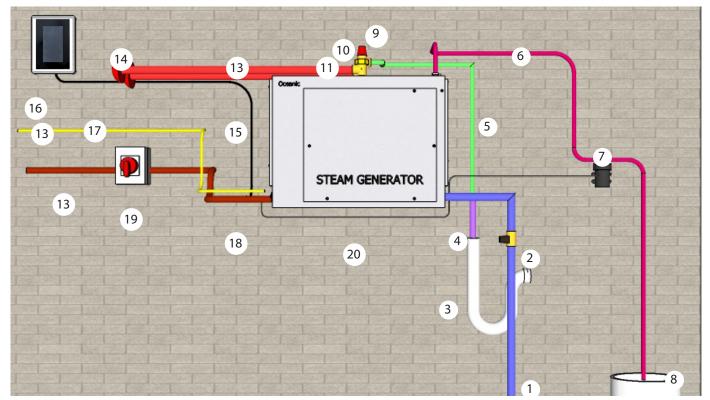
Steam On Demand button





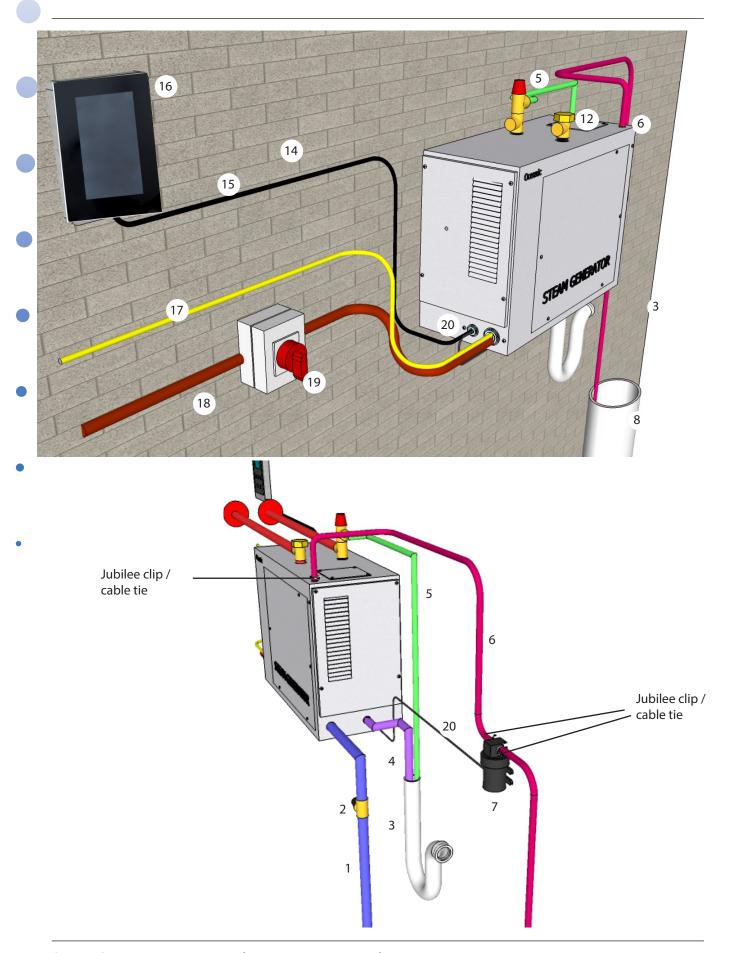
## 5.1. Connections diagram and table

No.	Part	Description	Supplied
1	Water inlet	1/2 " copper pipe (maximum pressure 1bar)	Not supplied
2	Pressure reducer valve	Set to 1bar maximum.	Not supplied
3	Washing machine trap	Both drain and steam overflow feed into	Not supplied
4	Drain	3/4" flexible hose	Not supplied
5	Pressure Release Pipe	1/2" copper pipe	Not supplied
6	Descaler inlet	Flexible silicon pipe secured with	Supplied
7	Descaling pump	Pumps descaling solution into generator	Supplied
8	Descaling solution container	Large plastic container filled with descaling solution	Optional 120L
9	Pressure relief valve	Operates if the pressure in the boiler exceeds 1.2kg/c m2	Supplied
10	Brass T junction	3/4" to 3/4" and 1/2" brass fitting to fit steam pipe and pressure relief valve	Supplied
11	Brass T	3/4"T fitting for seconday steam outlet	Supplied
12	3/4" female cap	To block off secondary steam outlet	Not supplied
13	Steam pipe	Copper pipe from generator to steam inlet inside steam room (10m max length)	Not supplied
14	Steam inlet nozzle	3/4" nozzle fitted inside steam room	Supplied
15	Control cable	5m 6 core cable to control keypad	Supplied
16	OSX Touch Screen Controller	To be mounted outside steam room	Supplied
17	Lighting circuit	230V cable to lighting circuit connection on inside of generator (optional)	Not supplied
18	Mains input	Single or Three phase supply	Not supplied
19	Isolator Switch	Mains isolator	Not supplied
20	Power to descaler pump	230V power cable for descaler pump	Supplied





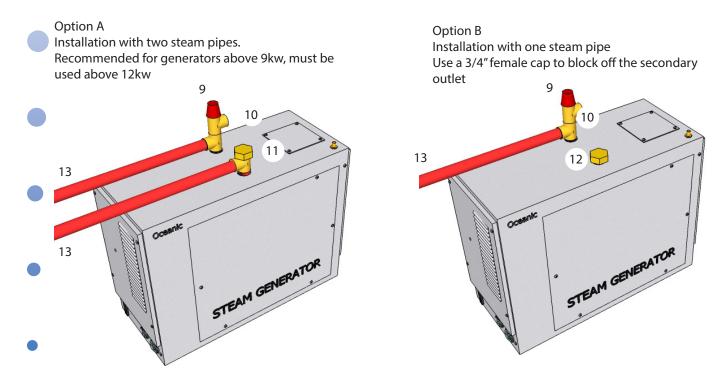




## Oceanic Sauna & Steam

## **Steam Generator Manual**

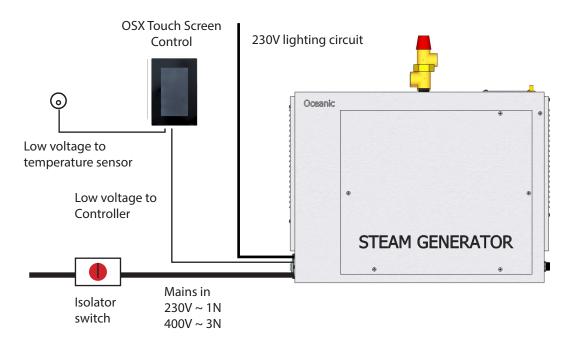
## **5.2.** Steam Pipe Connection Options



Important note: Steam outlet must not be reduced

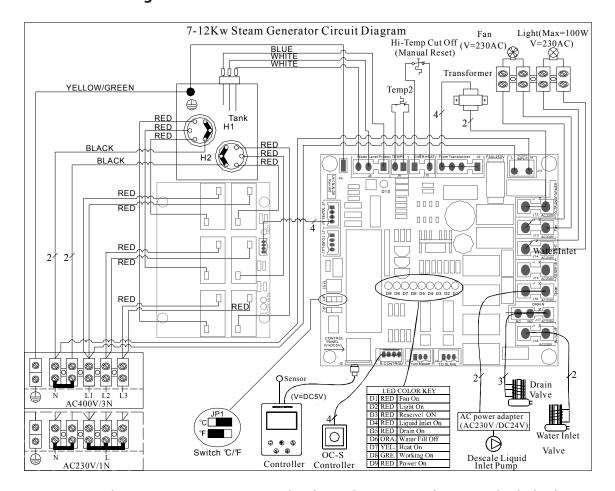
## **5.3.** Electrical connection schematic

Refer the circuit diagram on the following page for further details.





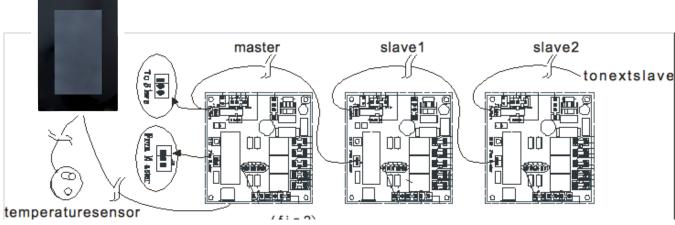
## 5.4. Circuit Diagram



 Note: To use the steam generator in single phase the L1 L2 and L3 must be linked together with the copper bridges that are supplied

## **5.5.** Wiring Multiple Generators

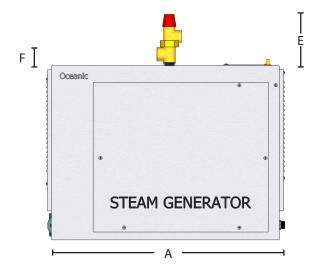
If greater power is required one OC-D controller may be used to control two or more steam generators, e.g. if you need a 24KW steam generator you can use one OC-D controller to control two 12kw steam generator or three 10kw steam generators.



## 6. Parameters

## 6.1. Steam Generator Frame Sizes

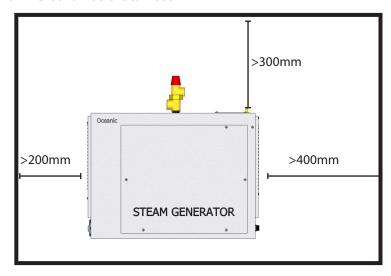
Model	А	В	С	D	E	F
OCD - 60	535	260	380	25	135 male	45
OCD-90	535	260	380	25	135 male	45
OCD-120	535	260	380	25	135 male	45
OCD-135	535	260	380	25	135 male	45
OCD-150	535	260	380	25	135 male	45
OCD-180	535	260	380	25	135 male	45

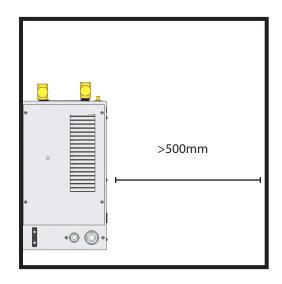






## 6.2. Clearance distances





## 6.3. Ventilation

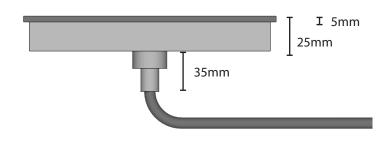
Ensure air flow into area where steam generator is housed.

For commercial use ensure good ventilation from at least two ducts within the housing of the generator



## 6.4. Table 2. OSX Controller Parameters

Model	Temperature	Dimension
	(°C)	(mm)
OSX	30 - 60 °C	150 x 218 x 25





## **6.5.** Temperature Sensor Parameters

MODEL	DETECTED SCOPE		_	Max Cut out Temperature		Size (mm)		
	°C	°F	°C	°F	L	W	Н	
OC-S	0-110	32-230	60	248	76	42	27	

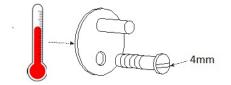
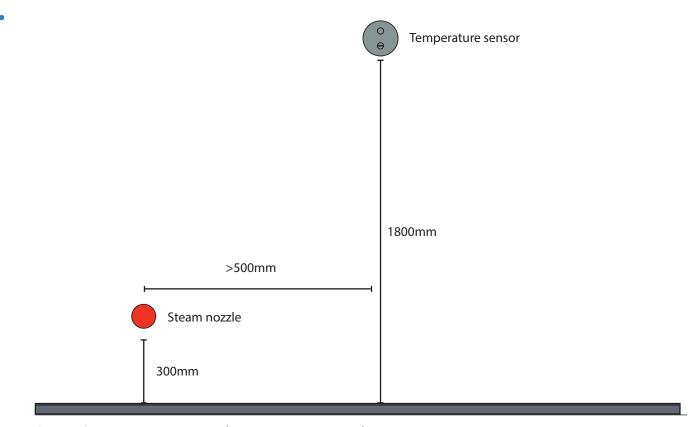


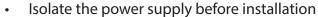
Diagram to show location of temperature sensor and steam inlet nozzle







## 7. Installation



- Confirm the model you have selected is suitable for your steam room, please refer to chart below
- Mount the steam inlet nozzle approximately 300mm up from the floor and it should be at least 200mm from person's body.
- If the steam generator is installed in an inaccessible place ensure that both the electrical power and water supply can be isolated in an emergency.
- To use the steam generator in single phase the L1 L2 and L3 must be linked together with the copper bridges that are supplied. See circuit diagram on page 9.
- The minimum water inlet pressure is 0.25 bar (2.5 Mpascals) and the maximum is 2 bar (20 Mpascals), for pressures in excess of this use a reducer before the valve as shown in diagrams on page 6 and 7.
- The steam pipe from steam generator to steam room should be kept to a minimum, pipes longer than 3 meters should be insulated to prevent heat loss. Steam pipes will be hot during use and must be protected against accidental contact. Steam entering the steam room will be scalding hot; take care to position the inlet nozzle away from where users will sit and/or provide adequate guarding, post a notice to caution users.
  - Keep the number of right angle bends to a minimum and ensure that the run does not create a trap into which condensate would gather and cause a blockage I.e. the pipe must not go down and then up.
  - There must be no valve or other blockage in the steam pipe
  - The steam pipe should be metal of other material that can endure 150°C temperature, copper pipe is recommended.
  - It is not recommended to install the steam generator outdoors or where it might be affected by frost. Allow for a minimum space of 0.5 cubic meters to install the generator.
  - Steam generator should be level side-to-side and front to back and should be installed so that the arrows on the case point up.
  - Do not install the steam generator in close proximity to hazardous substances.

#### 7.1. Generator Size

The table opposite 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.

For lightweight materials such as plastics and laminates 1 KW will heat up to 1 cubic meter of air for dense materials such as stones and ceramics which will conduct the heat away more rapidly allow for up to 2KW per cubic meter of air. Hot air rises so restricting the height to around 2 meters will ensure the user is sitting in the steam for higher ceilings you may need to increase the power requirement.

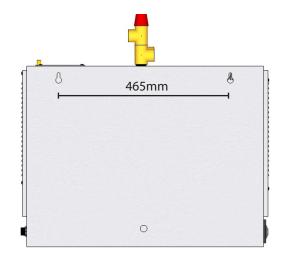
Generator Model	Steam Room
	Volume (m³)
OC-60	4.5 - 6
OC-90	6 - 10
OC-120	8 - 12
OC-135	10-14
OC-150	11 - 15
OC-180	14-18



#### 7.2. Steam Generator Location

The steam generator should be installed in dry well ventilated place in close proximity to the steam room. It can be placed on the floor or hung on wall.

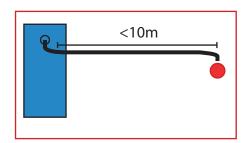
To hang the generator on a wall drill 3 holes 8mm in diameter in accordance with the table below. Fix the top 2 screws in place first then hang the generator by the 2 keyhole shaped holes in the back plate. Then with the front cover removed fix the 3rd screw to secure the unit in place.



- The steam generator can be installed anywhere that is dry and has an airflow. Example locations:
  - Plant Room
  - Cupboard in an adjacent room
  - In the loft
  - Up to 1.5m beneath the unit in a basement

#### Important notes:

- The steam pipe should be insulated and not travel further than 10 metres
- Do not reduce size of steam pipe at any point
- The steam pipe must not go down and then up, as this will create a trap and damage the steam generator.











#### 7.3. Water and Steam Connections

- i. The water supply pipe and steam pipe should comply with local standards
- ii. Connect the water inlet valve of the generator to the mains water supply using a flexible hose with 1/2 inch fittings.
- iii. Steam outlet (1/2 inch or 3/4 inch) use the same dimension copper pipe to connect it, if the steam pipe is longer than 5 meter it should be insulated. During use the steam pipe will be very hot and must be protected against accidental contact. Note that according to the location it may be necessary to attach an additional length of pipe to the pressure relief valve in order to divert the steam flow to a safe direction should the valve operate.
- iv. Connect the drain outlet to a suitable drain via a copper pipe with the appropriate fittings.

## 7.4. Installation for controller and temperature probe.

OC-A controller is waterproof and can be installed inside or outside the steam room according to customer preference.

- i. For a better connection and to eliminate any future connection problems spray connection fluid or aerosol oil spray on the pins of the PS/2 cable(5pin cable) before plugging into the circuit board.
- ii. Ideally the control panel should be installed at a height of approximately 1200mm for ease of use.
- iii. Installation method: Open the front cover of steam generator. Pin the control cable (6 cores) and temperature sensor cable (2 cores) to the relevant ports.
- iv. Control panel installation: pin one end to circuit board ports in steam generator connect the other end to the controller's cable.
  - v. Temperature probe installation: the temperature probe is installed inside the steam room at approximately 1.8 meters high and 0.5m away from the steam outlet. Use a 4mm screw fix it in place and then connect to the wire from the controller.
  - vi. Fix protective cover (supplied) over the temperature

Temperature Sensor

4mm Screw



Cover to protect the temperature sensor



## 7.5. Installations for power supply and control cable

Confirm the correct voltage of power supply and wires.

Remove the knock out for the power cable entry and use a rubber grommet to protect the cable, connect to the conductors to the correct terminals – for single phase power supply use the copper bridge connectors, for 3 phase supply remove them. (Extra bridges can be found it provided)

Remove the knock out for the control cable entry and use a rubber grommet to protect the cable,

Remove the knock out for the control cable entry and use a rubber grommet to protect the cable, connect the cable to the relevant port on circuit board.

Ensure the power supply wire and control cable remain separated to prevent magnetic field of power supply wire from disturbing control cable signal.

## 7.6. Installing a light

There is a 230v power supply inside the steam generator labelled "Light". This is rated to 100w Max. The button on the keypad will turn this power supply off and on. This power supply is protected by a fuse on the main circuit board but you can add your own fused spur for extra protection if you prefer.

## 7.7. Installing a Fan

Same as above for a light.

## 7.8. Connecting to descaler

- i. The descaling pump is powered off a 24v transformer which is supplied, there is a grey connector with a blue and red wire coming from supplied separately, this grey connector plugs into a 230v connection on the circuit board labelled "clean". Bring the 230v cable out from the generator and mount the transformer on the wall in a electrical box suitable for wet areas.
- ii. OCD Generator is able to run automatically descale cycle by pumping descaling solution directly into the tank. This can be set to occur at regular intervals using the controller as described on page 20.
- iii. The pump supplied should be connected via silicon hose to the generator and the container of descaling solution.
- iv. The diagram on pages 6 and 7 show how the descaling solution should be connected via the pump. Ensure the ends of the hose are held in place with cable ties.
- v. Both descaling crystals and 120 litre container can be purchased from www.Oceanic-Saunas. co.uk

#### 8. Steam on Demand Function

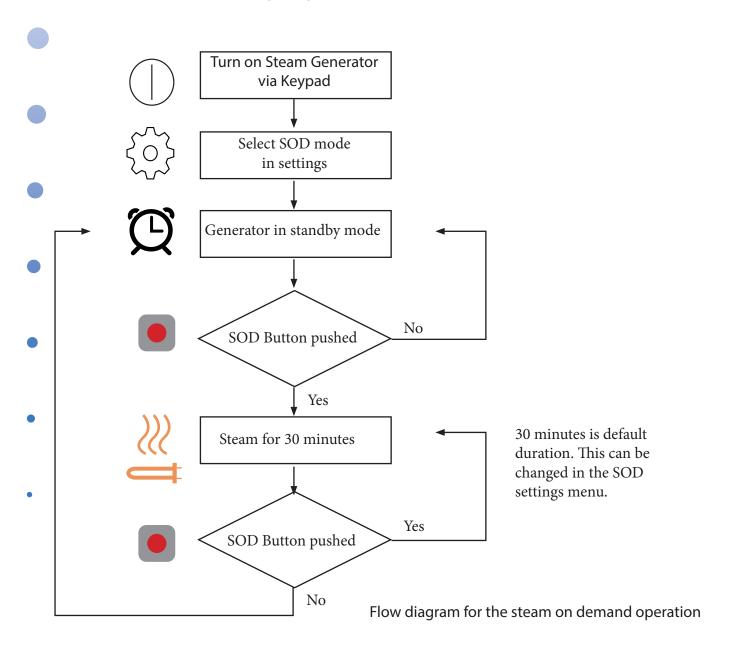
Commercial operators may wish to take advantage of the steam on demand function which will allow customers to press the steam on demand button located inside or outside the steam room after which the generator will create steam for 30 minutes (Default setting) then return to an idle state with water kept at 80degrees until activated again. This function reduces running costs and frequency of maintenance.

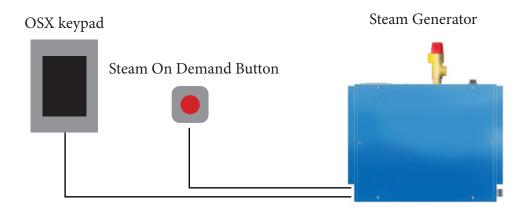
See instructions on page 19 for how to set up the function on the OCD Controller.





## **Steam On Demand Mode (SOD)**







## **OSX Touch Screen Controls User Interface**

Screen 0

Screen Off

Waiting for touch to activate.

Screen will automatically switch off 2 minutes after the generator has turned if screen has not been touched.

Touch Screen

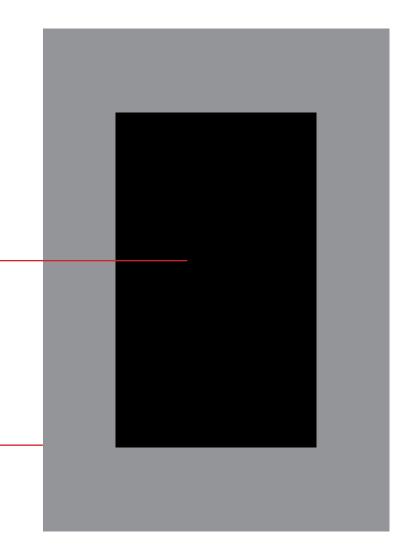
Touch sensitive screen for controlling the steam generator. Touch anywhere on the sceen to

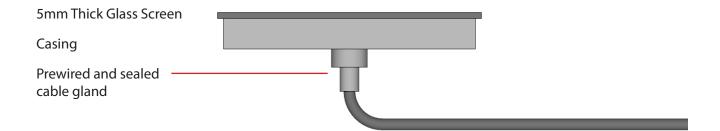
activate.

Housing

Protective housing for mounting

 the keypad and shielding the cable entry etc.







## Screen 1

Home screen

Appears after initial touch.

Return to this screen after Off button is pressed during operation.

Time

Displays the time of day in 24hr clock (requires time/date to be set)

Date

Displays the date with name of day followed by day/month/year

(requires time/date to be set)

13:30 Sat 24/11/18

Sat 24/11/18

Oceanic

#### Power On / Off button

Activates heater (previous settings stored)
Changes white once pressed to show power is on



#### **Fan button**

Operates fan (if connected via terminal inside generator). Spins when pressed.



## **Light button**

Switches light on Changes white once pressed



## Settings button

Enter settings page Changes white once pressed





#### Screen 2

Settings Screen

Setting button has been pressed User can change heater settings

## **Temperature**

Use slider to set the target temperature inside the steam room

#### **Heat time**

 Use slider to set the amount of time the generator will remain on for in heat mode.



#### Information

Press to enter information screen



## **Screen Brightness**

Press to adjust screen brightness



## Time / Date settings

Press to enter time and date settings screen

#### °C / °F Button

Toggle between Celcius and Fahrenheit temperature display



## **Lighting Settings**

Press to enter lighting settings



#### **Control Lock**

Press to lock controls via PIN. Enter PIN screen



## **Auto Mode Schedule**

Press to enter Auto Mode schedule settings screen 4



## Steam On Demand

Mode

Press to SOD set steam duration screen 5



#### **Mode Button**

Toggle between; Steam, Auto, SOD, and Auto SOD modes.

(SOD= Steam On Demand)



#### Descale

Press for auto descaling settings



#### **Cancel Button**

Cancel changes and return to previous screen



#### **OK Button**



## Screen 3

Time Settings Screen

Allows user to set the time and date for the keypad

Set Time

Touch the first square to select hour, set using the arrow keys below.

Touch the second screen to set minutes

#### **Set Date**

 Touch the first square to set day, second square for month and third day for year.

## **Up Arrow**

Press to increase the selected number by one unit. Push and

hold to scroll.

Button to change to white background with black icon when pressed



## **Down Arrow**

Same as above but decreases the number by one unit.



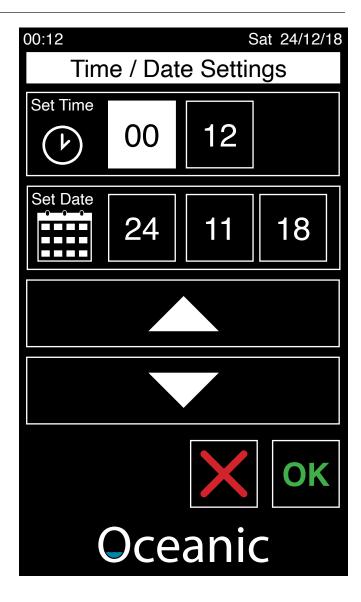
## **Cancel Button**

Cancel changes and return to previous screen



## **OK Button**







#### Screen 4

Auto Mode Settings Screen
Allows user to set when the generator should turn on/off in Auto mode.

#### **Start Time**

Set time for generator to turn on.
Touch the first square to select hour,
set using the arrow keys below.
Touch the second screen to set
minutes

## **Stop Time**

Set time for generator to switch off
Touch the first square to select hour,
set using the arrow keys below.
Touch the second screen to set
minutes

## Day of the week buttons

Select the day to set Start / Stop time for that particular day.

- OR
  Select ALL to set the same start/stop time for every day of the week.
- Button invert to white on black when selected.

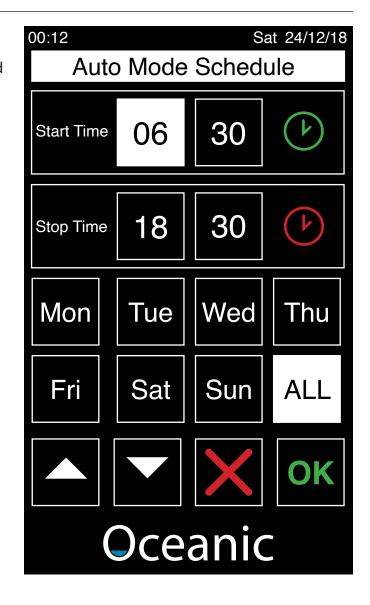
## **Up and Down arrow keys**

Use these keys to increase or decrease the time by one digit. Press and hold to scroll.
Button to invert to white background whilst being pressed.

## **Cancel Button**

Cancel changes and return to previous screen

#### **OK Button**





## Screen 5

SOD Mode Settings Screen

Allows user to set the length of time steam generator is activated when SOD button pressed

## **Steam Time**

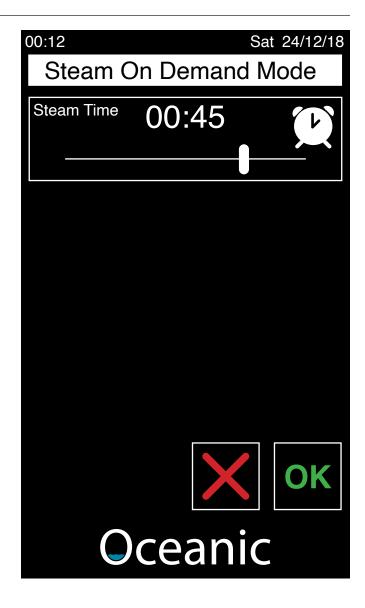
- Use slider to set the amount of time the generator will remain on after a single press of the SOD button.

  Minimum 15 minutes
- Maximum 60 minutes.

## **Cancel Button**

Cancel changes and return to previous screen

## **OK Button**





#### Screen 6

**Descale Settings Screen** 

Allows user to set when the generator should run the descale cycle

#### **Start Time**

Set time and day for generator to run Auto Descale Cycle.

- Touch the first square to select hour, set using the arrow keys below.

  Touch the second screen to set minutes
- Day of the week buttons
  Select the day of the week that the descaling cycle should take place

## Run Descale Cycle Now

- To manually run the descale cycle press the button and then OK
- Up and Down arrow keys

Use these keys to increase or decrease the time by one digit. Press and hold to scroll.

 Button to invert to white background whilst being pressed.

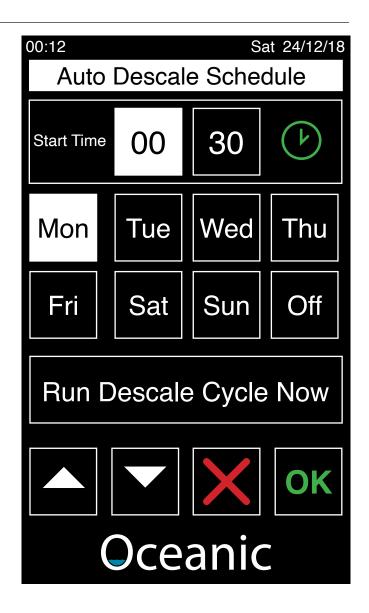
#### **Off Button**

Turn off Auto-Descale cycle (default setting)

#### **Cancel Button**

Cancel changes and return to previous screen

## **OK Button**





## Screen 7

Mode Select

**Mode symbols** 

#### **Manual Steam mode**

Generator is operated
manually using the On/Off
button on the Home screen,
Screen 1



## **Auto mode**

Generator will switch on and off at set times / days as programmed in Audo Mode Schedule, Screen 4.



**Steam On Demand mode** 

Generator is activated to produce steam for a set period of time when the Steam On Demand button is pressed by user. The time duration is set



in Steam On Demand settings, Screen 5

### **Auto Steam On Demand**

 Generator automatically switches itself on/off as per Auto mode schedule and will be operated by Steam on Demand button only.



steam

auto

SOD

auto SOD

Cok

Oceanic



## Screen 8

**Lighting Settings Screen** 

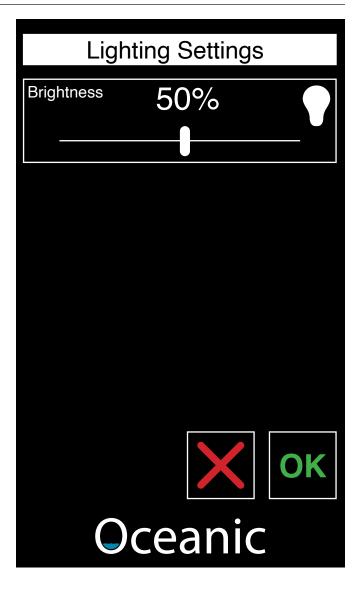
Lighting Setting button has been pressed, user can change lighting settings.

## **Brightness**

Use slider to set the brightness the lighting circuit.

Note that only dimmable LED lighting and Mains Powered 230V Lighting can be dimmed via this system. The lighting circuit

 should be connected to the generator via the terminal inside the generator. 230V 100W maximum



## **Cancel Button**

Cancel changes and return to previous screen

#### **OK Button**



## **Screen 9**

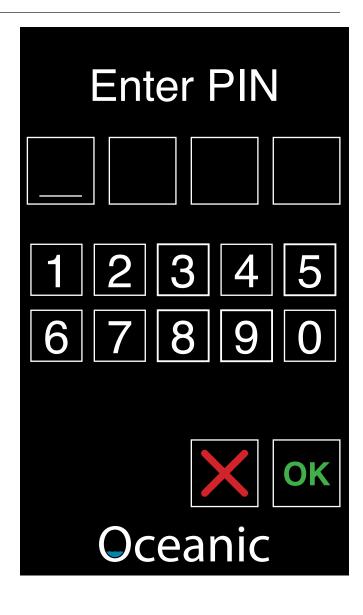
PIN Screen

User must enter PIN to lock / unlock settings

Number Pad

User must input 4 digit PIN using the number pad, in the correct order and press OK to access the lock settings screen.

•





## Screen 10

**Lock Settings Screen** 

User can choose to lock or unlock the settings

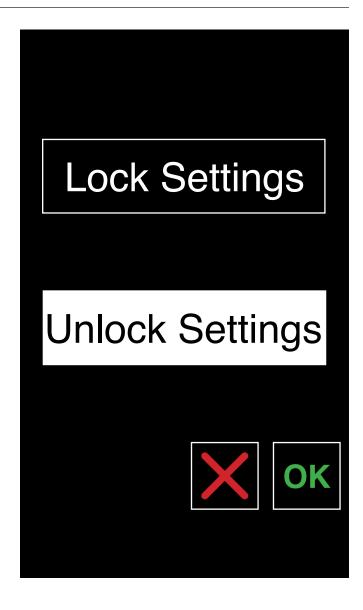
Lock Settings

Locks the settings. Future user will not be able to adjust any settings unless PIN is entered and settings

unlocked. Only Power On/Off, Light, and Fan can be operated if settings are locked.

## **Unlock Settings (selected)**

Unlocks the settings to allow adjustments to be made.





# Screen 11 13:30 Sat 24/12/18 Steam mode / Heating steam **Steam Mode icon stean** Time remaining until generator switches off 23/40°C **Current temperature** inside steam room. Target temperature shown in grey **Light Icon White** Shows light is switched on Oceanic

## **Working Icons**

## **Heating Icon**

Shows there is power to the elements. Tank is heating



## Filling Icon

Shows the tank is currently filling with water



#### No Water Icon

Shows the tank needs water but is not filling. Warning to user that there is a problem with the generator.



### **Overheat Icon**

Steam Generator has overheated. Overheat button has tripped and requires manual reset to continue using the generator.





Screen 12

SOD Mode / Waiting

**SOD Mode Icon** 



Waiting Icon Steam Generator is waiting







## 9. Troubleshooting guide

Please note that we recommend all repairs are carried out be a suitably qualified person.

		•	double a suitably qualified person.
	Trouble description	Cause Something is wrong with:	Solution
•	No Steam	Settings not correct Connection Power supply Transformer. Main circuit board controller Control cable or port Connection Fuse	Has the control been set up correctly, follow user guide page 19. Is water light on - check water supply - check valve coil for continuity. Remove and clean water level probe with emery cloth Descale machine Check fuse Check power output from transformer Replace Main PCB
	Water coming out of steam nozzle.	Water Level Probe	Remove and clean water level probe Check connections to and from water level probe
•	Circuit breaker tripping out.	Element failure Loose Earth Wire Faulty connection	1. To check elements use a insulation tester, or fault find by disconnecting individual elements one by one. 2. Check earth connections are tight. 3. If above fails, return generator to supplier for repair, guarantee information below.
•	Temperature window displays "LC"	The temp sensor connection	Check connection or change temp sensor.     If above fails replace sensor.
	Temperature window display "HC"	Temp sensor is short circuit.	Check connection or change temp sensor.     If above fails replace sensor.
•	Water runs through steam nozzle in room.	Water inlet valve. Level sensor.	<ol> <li>Turn machine off, if water continues clean inlet valve or replace.</li> <li>If runs while machine is on try above if fails clean water probe and check connection to circuit board.</li> </ol>
•	Generator works when switched off on the control panel.	Relays	1. Replace relay PCB.
	Filling symbol is flashing		Check water supply

## 10. Maintenance

The single biggest problem with steam generation is the build up of scale resulting from dissolved solids within the water. Scaling can cause the elements to fail, the water level sensors not to function, premature failure of the O-rings resulting in leaks from around the elements. The extent of the problem will vary according to the degree of hardness in the local water supply. For all commercial operators we recommend the use of a water softener.

Expect 2500 hours element life, this can be serious depleted by poor maintenance.



- All users commercial and domestic must ensure a regular maintenance routine to descale the generator the frequency of this will vary according to the degree of hardness in the local water supply and the amount of time the generator is used for. Check the water for hardness and arrange the descaling routine accordingly: -
  - High levels of hardness descale once every 50 to 100 hours of operation.
- Medium levels of hardness descale once every 100 to 250 hours operation.
  - Low levels of hardness descale once every 250 to 1000 hours of operation.

To descale the generator use a solution of weak acid crystals (such as citric acid) mixed with

Citric acid can be purchased from: www.oceanic-saunas.co.uk www.oceanic-saunas.eu

## 11. Guarantee

- All generators are guaranteed for 12 months for domestic and commercial use from the date of purchase. This guarantee excludes consumable items such as the electrical elements and failures resulting from misuse or abuse such as a not descaling the machine.

  If you are using the generator for more than 20 hours a week in a hard water area without a water softener your guarantee will be invalidated.
- If you encounter any difficulty with this assembly procedure or think we could have explained anything more clearly we would welcome your comments, please call T: 01902 655425 or T: 01902 871127 technical help line.