

# Oceanic

## Sauna & Steam

### **SAUNA HEATER** **with OCSB/LB CONTROLLER** Assembly and operating manual



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### 1. Introduction

Thank you for choosing to buy our Oceanic sauna heater, please take the time to read these instructions before you begin as they contain important information about the installation and maintenance requirements.

Depending upon the size of cabin heaters from 3kW to 9kW can be used in single or three phase.

### 2. Important Notes

- Read the manual before installation and operation.
- This equipment is intended for indoor use only
- This equipment is not intended for marine use
- This Equipment must be installed by competent person.
- This equipment must be connected to an RCD protected all pole isolator.
- Disconnect the power supply before exposing electrical connections.
- The sauna heater should not be used for any other purpose
- Do not cover the sauna heater or allow contact with flammable materials such as toweling – Risk of fire.
- Do not operate sauna heater without sauna stone
- Do not touch the heater when operational as it is very hot

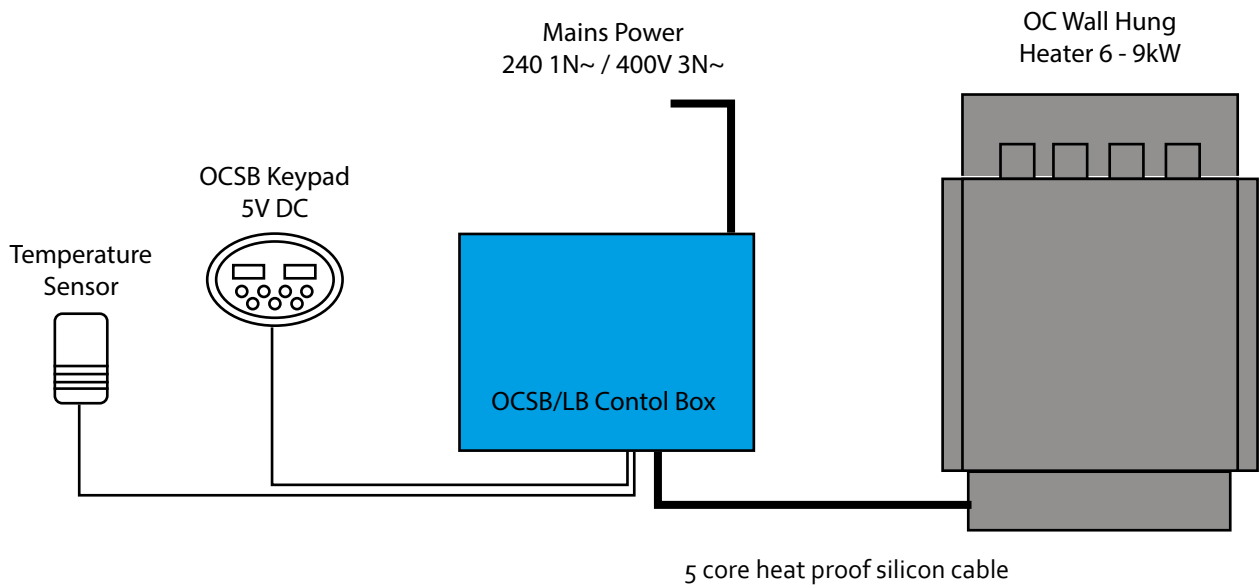
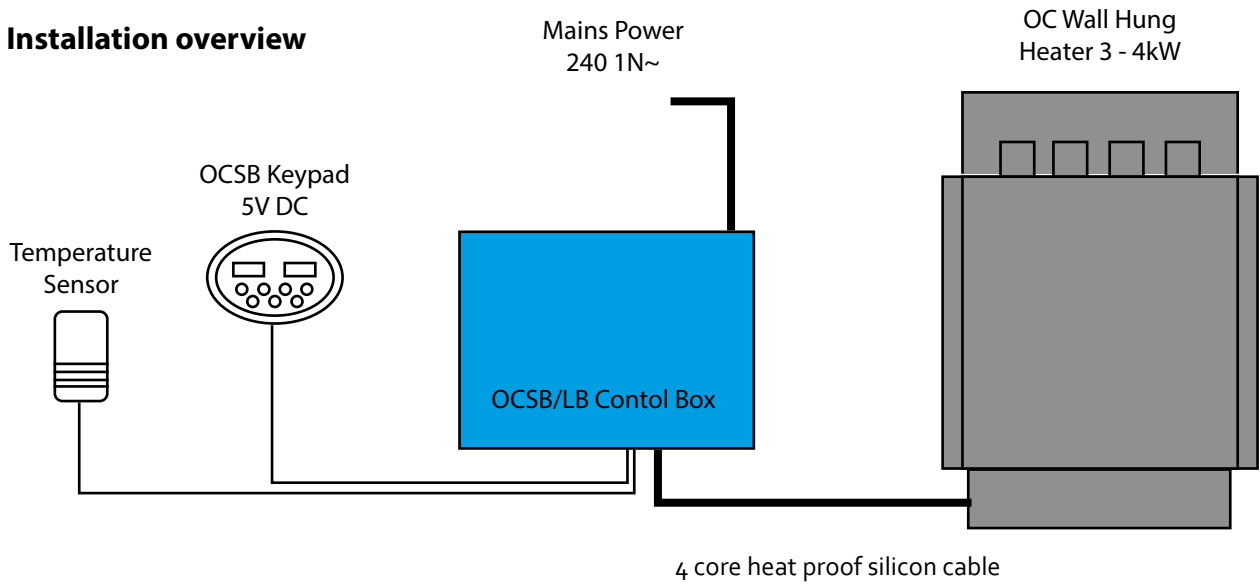
### 3. Safety Precautions

- 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 sauna room;
- Do not smoke in the sauna room;
- Avoid using the sauna room immediately after strenuous exercise;
- Do not use the sauna room when under the influence of alcohol;
- Leave the sauna room at once if you feel sleepy, sick or uncomfortable;
- Ensure there is good ventilation for the sauna room
- We do not recommend this product is used by children under 16 years old unless they are supervised by an adult
- This appliance is not intended for use by persons including children with reduced physical, sensory or mental capabilities or lack of experience unless they have been given supervision or instruction concerning the use by a person responsible for their safety
- Commercial operators should post a notice of these precautions in a prominent position

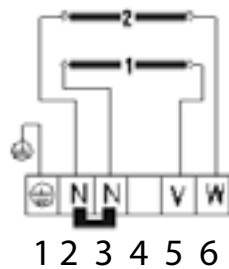
### 4. Electrical connection

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 sauna 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.

### 4.1. Installation overview

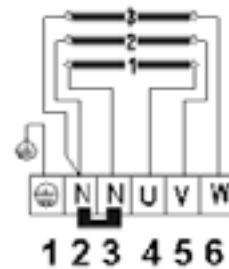


### 4.2. Circuit Diagram



OC30~OC40 Circuit diagram

Use 4 core cable



OCS60B~OCS90B Circuit diagram

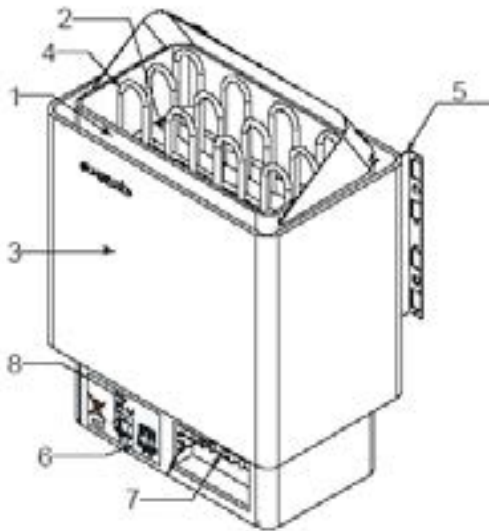
Use 5 core cable

### 5. Sauna Heater Parameters

#### OSC Series Sauna Heater Parameter

Model	Power (KW)	Voltage (V)	Phase (N~)	Current (A)	Heater Elements	Sauna Stone (kg)	Dimensinos LxWxH (mm)
OCS30	3	230	1	13	2	12-14	410 x 280 x 570
OCS40	4	230/400	1/3	17	2	13-15	
OCS45	4.5	230/400	1/3	19/6.5	3	14-16	
OCS60	6	230/400	1/3	26.4/8.7	3	16-18	
OCS80	8	230/400	1/3	34.8/13	3	18-20	
OCS90	9	230/400	1/3	39/14	3	18-20	

#### 5.1. Sauna Heater Parts Description

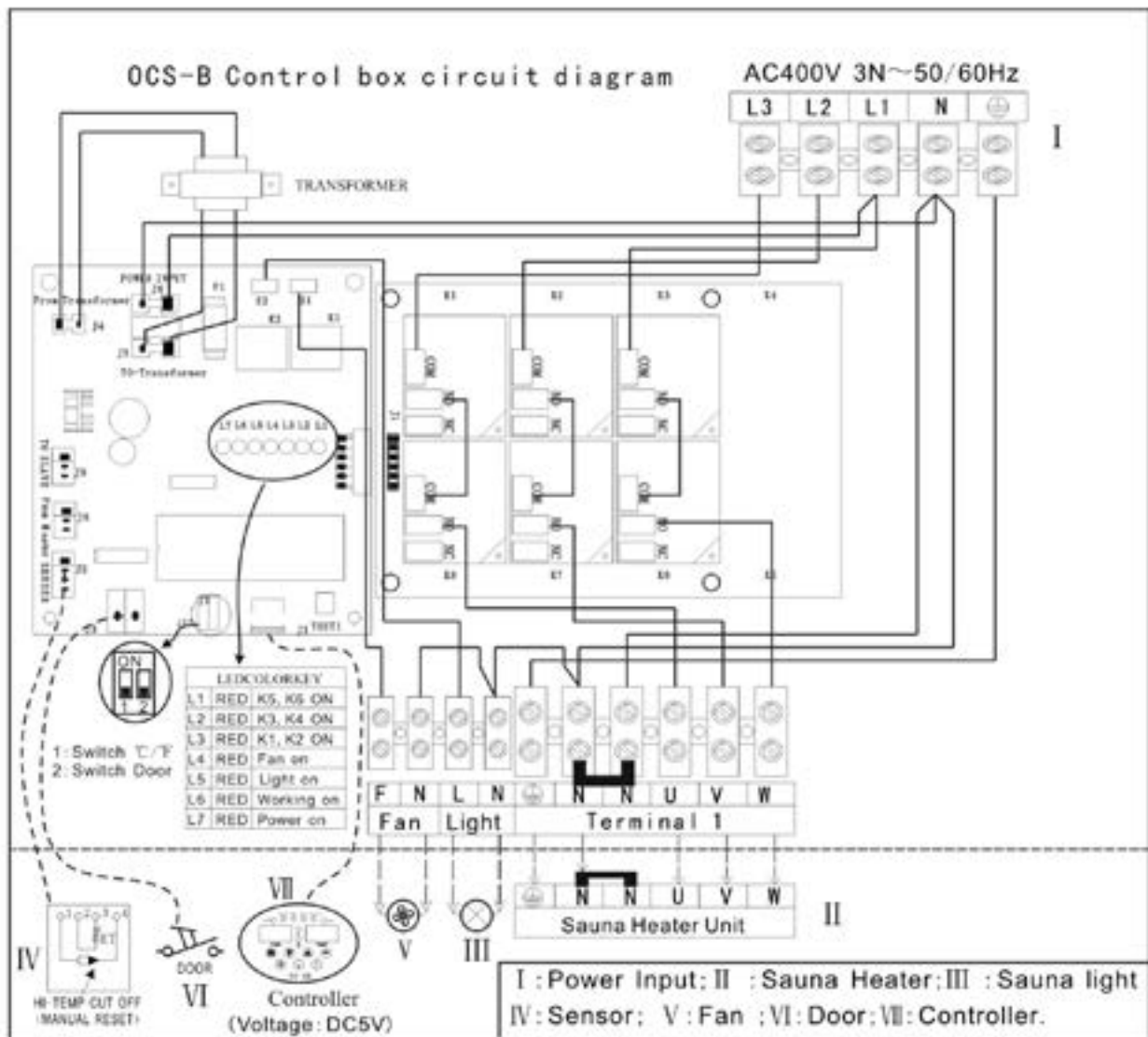


No.	Parts
1	Inner shell
2	Stone bracket
3	Shell
4	Heat element
5	Fix bracket
6	Cover Panel
7	Terminal

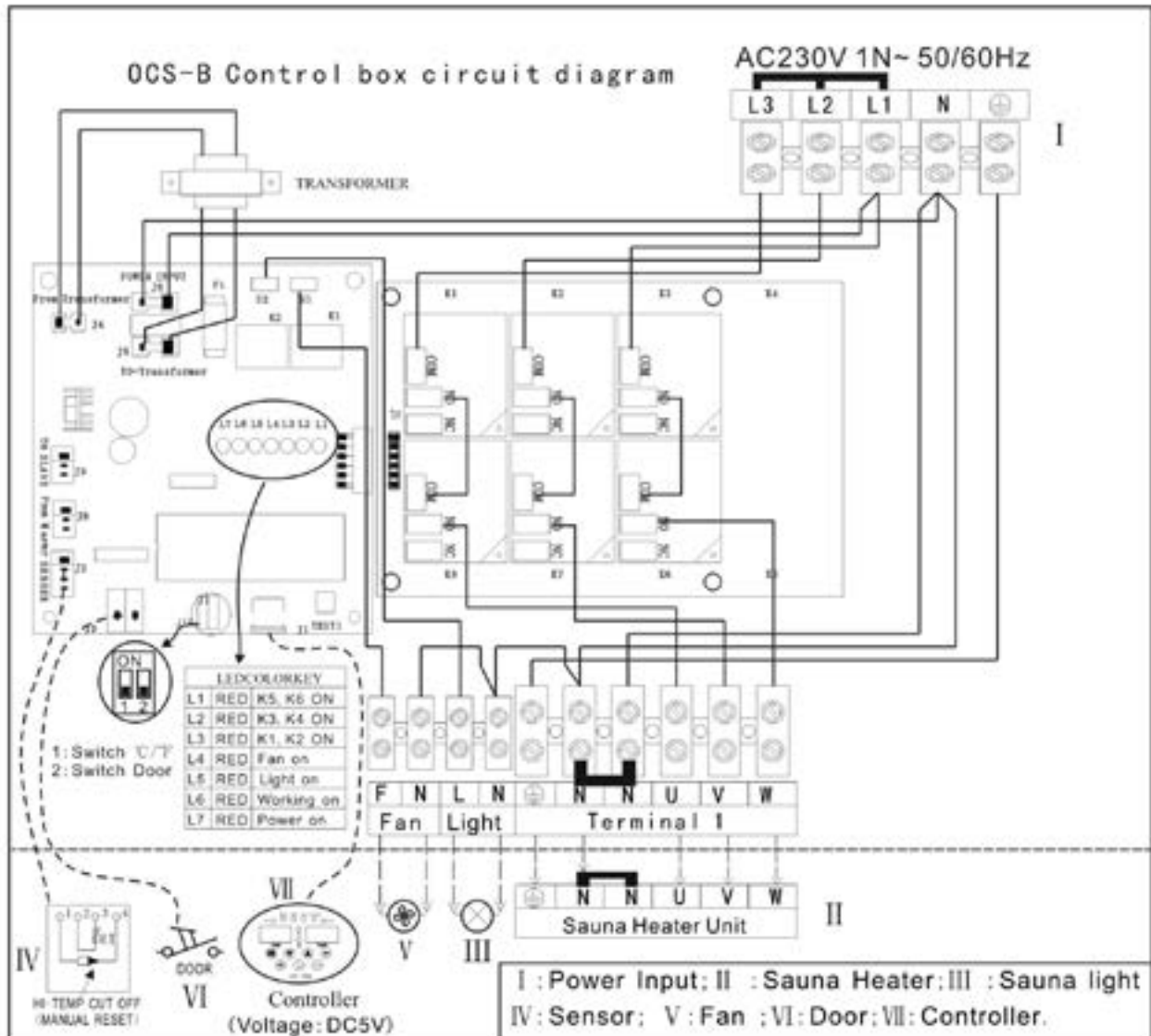
#### 5.2. Controller parameters

Model	Input		Output		Load power (Kw)	Size (mm)		
	1N~	3N~	1N~	3N~		L	W	H
OCSB Control box	230V	400v	230V	400v	2.5~8kw	310	260	70
OCSB Control box		400v		400v	9kw	310	260	70
OCSB Keypad	Voltage:DC5V				2.5~20kw	150	92	22

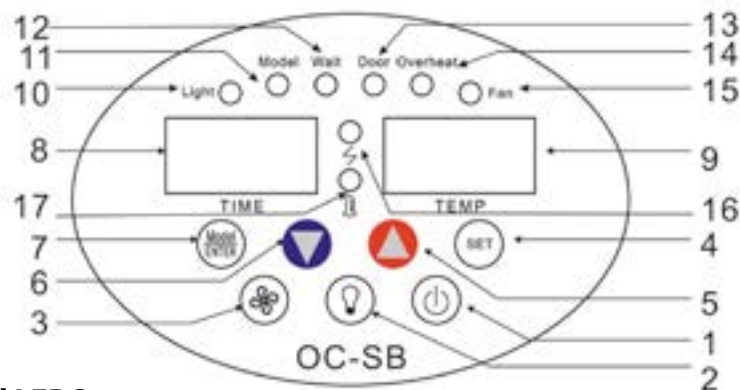
### 5.3. Control Box Circuit Diagram using three phase connection



### 5.4. Control Box Circuit Diagram using single connection



### 5.5. Controller Parts Description

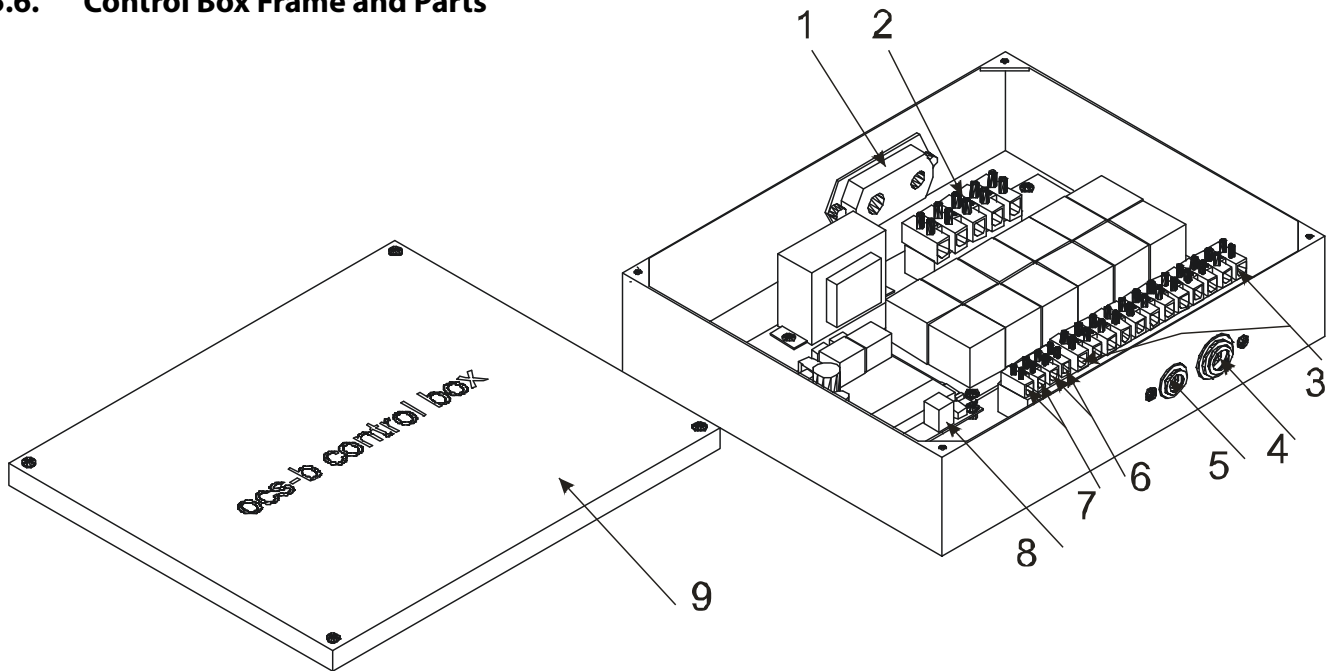


### Keypad Buttons and LEDs

No.	Description	Function instruction
1	On/off button	Push to operate
2	Light button	Push to operate for sauna room light
3	Fan button	Push to operate for control box fan
4	Setting button	Preset time and temperature and the setting confirmation
5	Increase button	Press to increase
6	Decrease button	Press to decrease
7	Mode button	Change working mode
8	Time display	Display working time or waiting time to work
9	Temp. display	Display temperature
10	Light LED	Indicator Led for sauna room lamp
11	Model LED	Indicator LED for working mode, on mean under A model ,sauna heater is working
12	Wait LED	Indicator LED for working mode, on mean under B waiting to work
13	Sauna room Door(interlock) indicator LED	indicator LED is on: the sauna heater stop working ,there is control signal to control box main circuit board when the door is open , the default is the connection switch is downward (opposite side of ON), when the door is open , there is on signal to circuit board , the LED is on and sauna heater stop work. Such as on sauna room door install a switch connect to circuit board , the switch 's on or off signal can control sauna heater work or stop. when you need the switch send off signal to working , the default is ok, when you need the sauna heater under the on signal to work , just push the switch circuit board to "on" side"
14	High temperature LED	indicator LED is on , sauna heater stop work . the sauna room temperature higher then 120 centigrade . high temperature cut off switch works, when the temperature in sauna room down to 100 centigrade , and find out the high temperature problem then preset the switch by hand
15	Fan LED	Fan is on - not used in any Oceanic Saunas
16	Heating LED	On means the heat element is working
17	Stop working LED	indicator LED for stop working , the sauna room temperature exceed the preset temperature , the heat element pause(when temperature 2 centigrade lower than preset temperature ,sauna heater will work again,



### 5.6. Control Box Frame and Parts

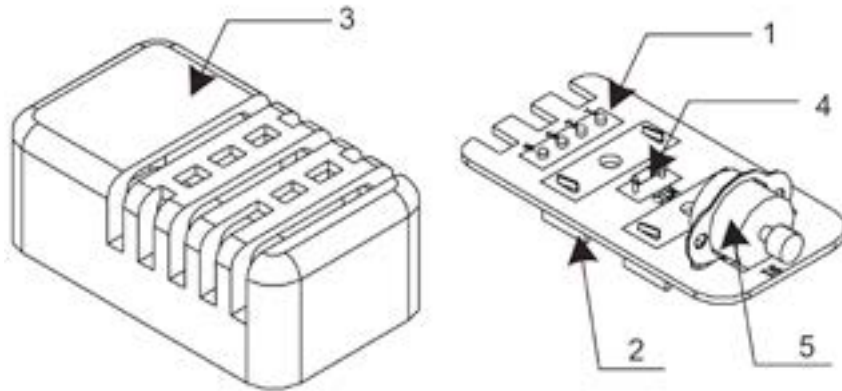


#### Control box instruction

No.	Description	Function instruction
1	Wire anchorage	Route of wire entry and fasten wires
2	terminal	Connect to the power supply
3	Terminal	Connect to heater
4	Heater ,light and fan output	Outlet of wires to heater ,light and fan and fasten wires
5	Control cable entry	The entry of control cable
6	Light terminal	Connect to light wire
7	Fan terminal	Connect to fan wire
8	Control panel terminal	Connect to control cable
9	Cover	cover

## 6. Temperature Sensor

### 6.1. Parts Description



No.	Parts	Description
1	Circuit board	Circuit board
2	Bracket	Bracket
3	Cover	Protects the electronics
4	Heat resistance	Detects temperature
5	High Temp cut of switch	When temperature in sauna room exceed 120 oC

### 6.2. Temperature Sensor Parameters

Model	Detected scope	Cut off on high temperature	Size		
			L	W	H
OC-S	0~110	120	76	42	27

### 7. Installation

- Confirm the model you have selected is suitable for your sauna room, please refer to the table below.
- i. Ensure the power supply is suitable for the sauna heater
  - ii. Isolate the power supply before installation. The sauna heater will be controlled via the
  - iii. The installation position must comply with the minimum distance in the table below and in the diagrams on the following page
  - iv. The minimum height of your sauna room must be 1900mm, please refer diagrams on following page
  - v. Do not install the sauna heater on the floor or in a cabinet
  - vi. Do not cover the sauna heater back with asbestos cement or similar material
  - vii. The wire which enters the sauna room must be type 60245 IEC 66 HO7RN-F (BSEN 6141) please refer to table below
  - viii. Do not install two or more sauna heaters in one sauna room.
  - ix. The sauna heater becomes very hot when operating and must be guarded to protect incase of accidental contact, please see the sizes in fig D and also refer to charts below and on following page
  - x. The upper supporting screws must be fixed tightly, there is a 3mm gap between the screw head and wall (refer fig A, fig B), additional retaining screws should be inserted into the round holes to prevent the heater being lifted.
  - xi. The sauna controller must be mounted outside of the cabin. If purchased with an Oceanic Sauna Cabin use the wiring panel provided, see section 7.3
  - xii. The controller should be kept at a height of between 1200MM-1500MM so that it is easily controlled and operated
  - xiii. Temperature sensors should be installed in sauna room but not directly above sauna heater, the height should be 1500-1800mm from floor. The horizontal distance to sauna heater must exceed 500mm

Model	Sauna Room		Min Distance from Sauna (mm)			Current (A)		Fuse (A)		
	Volume (m <sup>3</sup> )		Min height	Distance to shelf over 500mm above the floor	Ceiling	Floor	230V 1N~	400V 3N~	230v 1N~	400V 3N~
	Min	Max								
OCS30	2	4	1900	50	1100	180	16	/	20	/
OCS40	3	5	1900	50	1100	180	20	10	25	/
OCS45	4	6	1900	80	1100	180	20	10	25	10
OCS60	5	8	1900	150	1100	180	32	16	40	16
OCS80	7	11	1900	200	1100	180	45	16	60	20
OCS90	8	12	1900	200	1100	180	45	20	60	20

### 7.1. Minimum Clearances

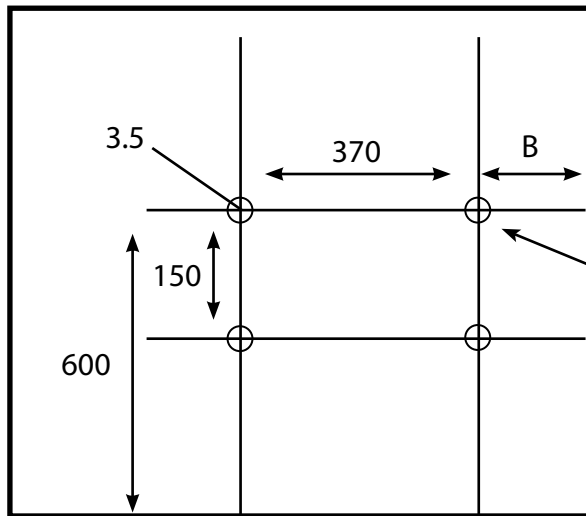


Fig. A

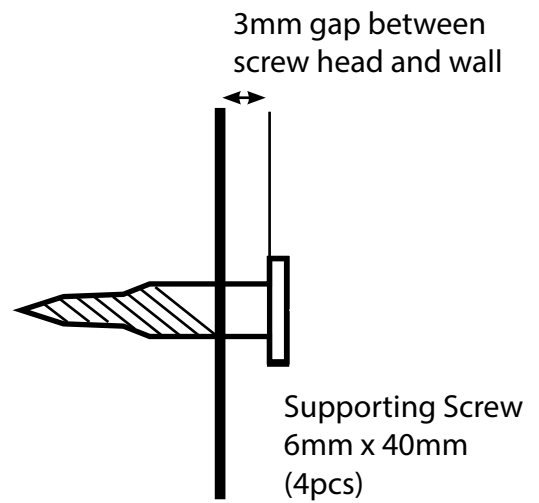


Fig. B

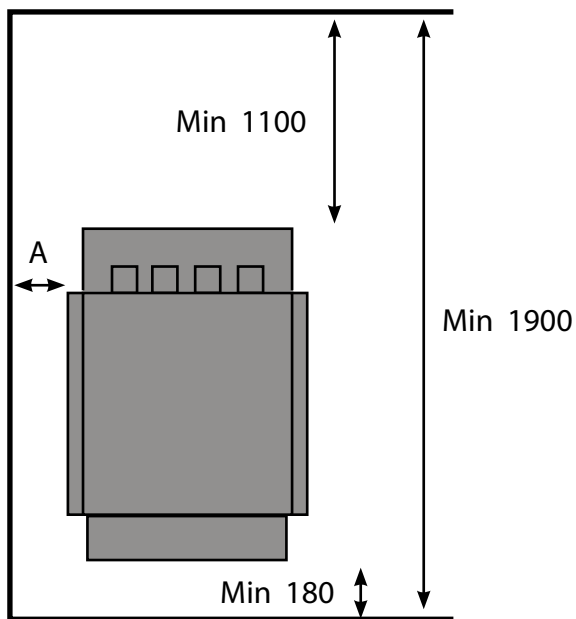


Fig. C

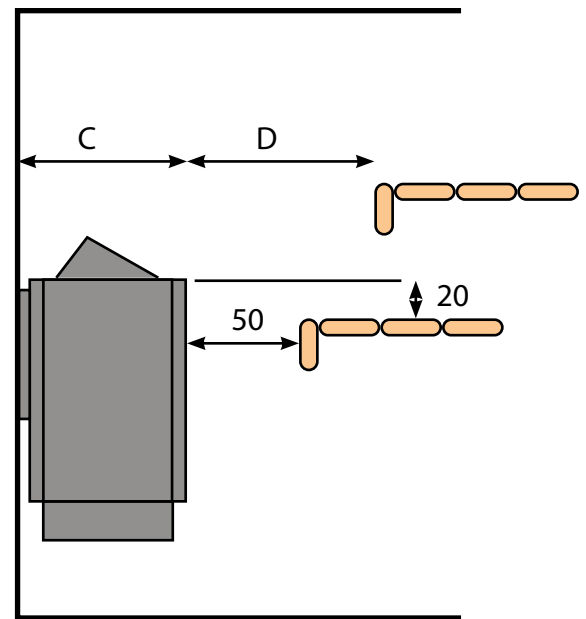
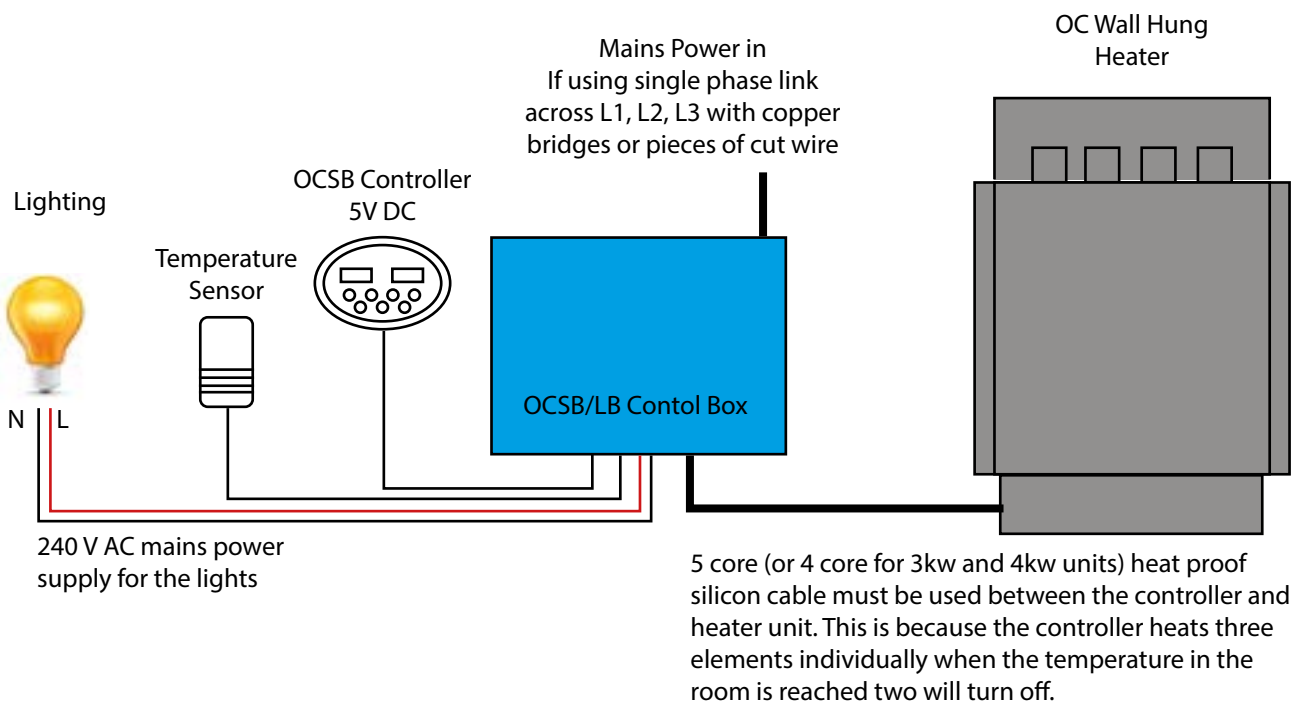


Fig. D

All sizes in mm

Model	Minimum Distance (mm)			
	A	B	C	D
OCS30	50	70	280	100
OCS40	50	70	280	100
OCS45	80	100	280	100
OCS60	100	120	280	150
OCS80	130	150	280	200
OCS90	130	150	280	200

## Sauna Heater Manual



### 7.2. Installation for sauna heater

- Refer the installation drawings on the previous page, Fix screws and hang sauna heater on wall
- Remove the cover panel & connect power supply wire & control cable through the knock-out holes to the Terminal as in the diagram above and replace the cover panel.

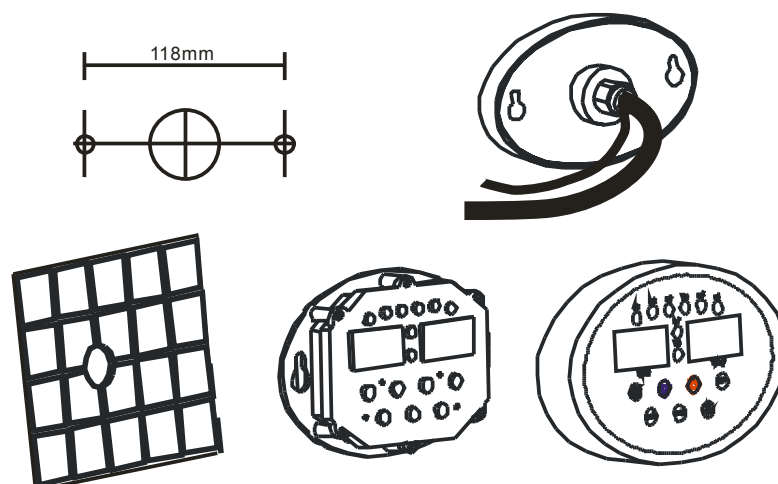
### 7.3. Installation for controller

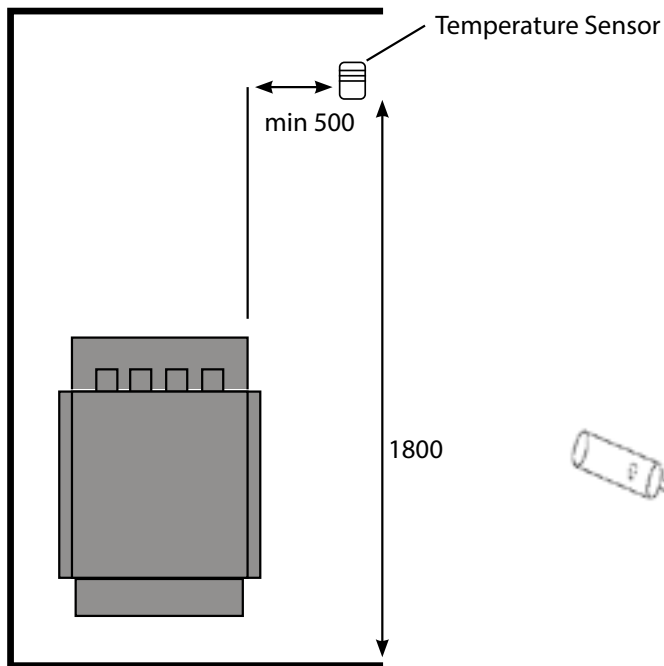
Ideally the control box should be installed at a height of approximately 1200mm for ease of use.

**Note: Controller must be installed outside of the sauna cabin.**

Installation method:

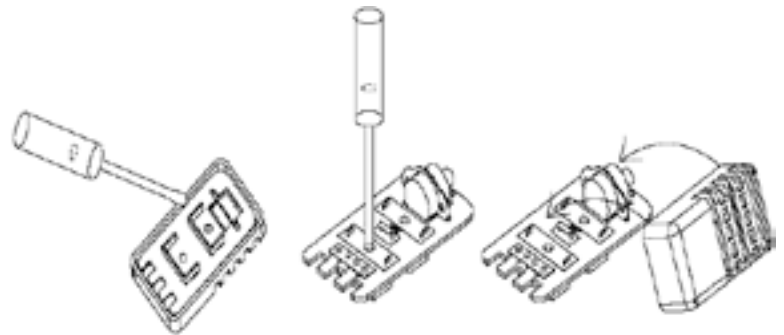
- Drill a 40mm diameter hole through the wall.
- Pull the front off the keypad, you may find it easier with a small flat electrical screw driver.
- Pin the control cable (6 cores) to the relevant ports.
- Install the control so it sits flat on the wall. Fix using the screw holes 118mm apart.
- Put the keypad cover back on, check the cover is completely on so that all the buttons click when pushed.



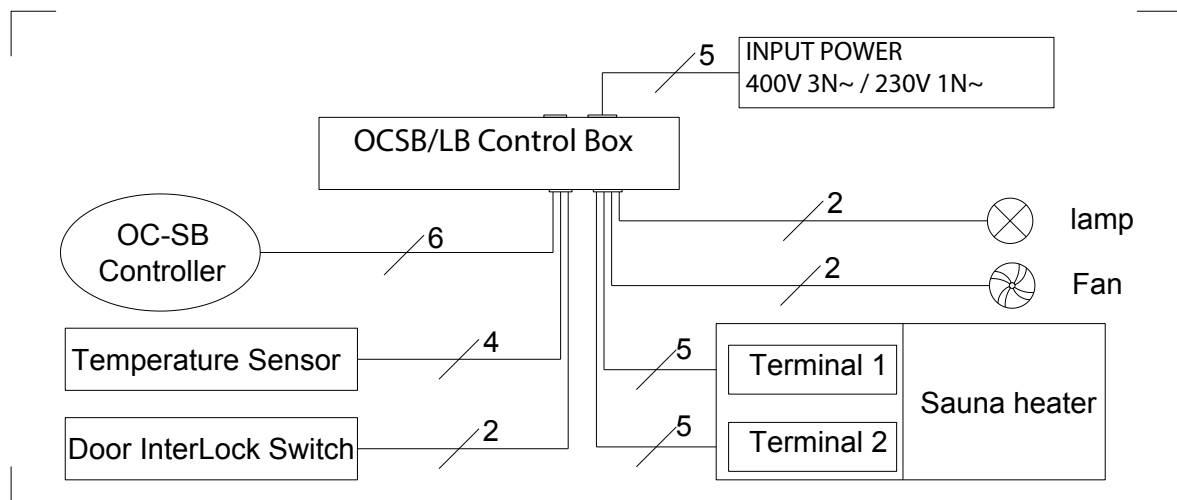


### 7.4. Installing the temperature sensor

- i. Install the temperature sensor as in the diagram opposite
- ii. Open the cover with a screwdriver
- iii. Fix the bottom of the temperature sensor on to wall with screw
- iv. Replace the cover.

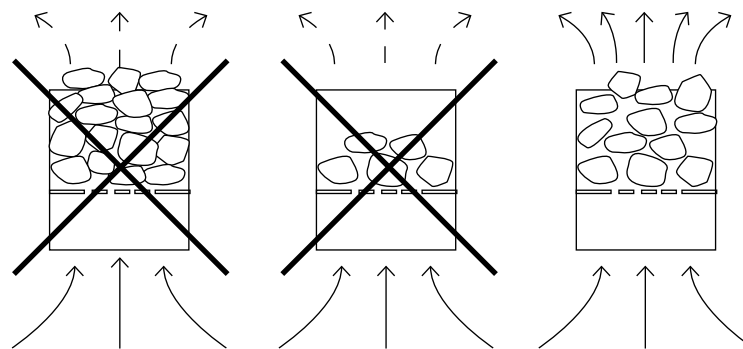


## 8. Sauna heater, controller and temperature sensor connection drawing



### 9. Sauna Stones

- i. Carefully check that none of the stones have white lines running through them, these are susceptible to exploding when hot so do not place these in the rock basket.
- ii. Note we recommend washing the stones thoroughly in water to remove any dust before the first use.
- iii. Put the larger stones at the bottom and smaller stones on top.
- iv. Take care not to pack the stones too tightly other wise the air will not be able to circulate around the elements which can cause premature failure, but do make sure to cover the elements completely.
- v. It will be necessary to change the stones from time to time as they will gradually crumble with use. For commercial users this is probably every year, for domestic users once every several years, depending upon use.
- vi. Before connecting to the power supply check the sauna heater and make sure there are no flammable items on or around the heater, please note that on the first use the elements and stones may smoke slightly and give off a smell – please ensure the sauna cabin is well ventilated.



### 10. Testing and Operation

- i. Connect to power supply, press "ON/OFF", temp and time windows will display data, LED shows the sauna's heating status when the light is on, the temperature of sauna room will rise and will achieve the preset temperature (the default settings are 75 °C/187oF, work time is 2 hours) see chart on the following page.
- ii. When the time has finished counting down and the time window displays "0", the controller and heater will shut down automatically.
- iii. The sauna heater has a sequential heating function so that the heater can work economically. When the heater is first turned on all the elements will work together to reach the target temperature, when the target is reached one element will be left working to keep the target temperature constant (for OCS30, OCS40 ,one bank will stop ). When sauna room temperature goes 2°C/ 4 oF above the target temperature all heat elements will stop. When the temperature of the sauna goes below the target temperature, one bank heat element will work again, when the temperature goes 2°C/ 4 oF below the target temperature, all heat elements will work again.
- iv. Light button: Turns sauna light on/off
- v. Use temperature switch button to change the temperature display between centigrade and Fahrenheit
- vi. The Controller has a timing device so you can set a time when you want the heater to power up, this can be set from 0~12 hours as shown in the chart below. When the controller is in B Mode (Timer mode) the heater can't operate, but when B Mode reaches "0" or the "Mode Button" is pressed the heating function will start (A Mode).

### Default Controller Settings

Model	Default Mode	Default Temp °C/°F		Temperature adjust scope °C	
OCSB/LB	A	75 °C	187 °F	50-110 °C	122-230 °F
	Default Time			Time adjust scope	
	Working time	Waiting		Work time	Wait time
	2hrs	4hrs		10mins - 8hrs	0-12 hrs
	Time adjustment per button press			Temperature adjustment per button press	
	10 mins			1°C /2 °F	

#### 10.1. Setting time and temperature:

The default settings for temperature are: 75°C/187°F. For preset operation time: 2 hours. These can be adjusted easily, if the electricity supply is lost the controller will return to default settings.

- When the sauna is turned on the time settings will work under A mode (A mode LED is on), the time window will display the last time that was set. Press "SET" key the time display window will flash. press "▲" or "▼" to adjust the time, every press the time will increase or reduce 10 minutes. once the desired setting is reached press "MENU/ENTER" the window will stop flashing. You can adjust from the time from 10 minutes to 8 hours. Note the controller has a memory function, if the power supply is not cut off the next time you turn on steam generator the time you selected will be the default time.

- To set your heater to come on at a certain time (for example: if you plan to watch a film and want the sauna to start heating up half way through so its ready at the end of the film) you can use the B mode setting which can be set if you press the "MENU/ENTER" and the time window will display 4:00, now Press "SET" key the time display window will flash. press "▲" or "▼" to adjust the time, every press the time will increase or reduce 10 minutes. once the desired setting is reached press "MENU/ENTER" the window will stop flashing., when it reaches "0" it will switch over to A Mode and the heater will turn on. (Remember to set the time you want the heater on for on A Mode before setting B Mode)

- For quick time adjustment: hold the "▲" or "▼" and it will count continuously up or down, when it reaches the time you want release and it will stop.

- Temperature: switch button you can switch between centigrade and Fahrenheit.

- To adjust temperature: Press "SET" once after you finish setting the time or otherwise twice the temperature window will flash, enter the required temperature by pressing "▲" or "▼" to adjust - every press will increase or reduce 1°C or 2°F. you can adjust from 50°C-110°C 122°F-230°F once the required temperature has been set press "MENU/ENTER" key the window will stop flashing.

#### 10.2. Door Interlock

When used in commercial situations such as public buildings where the countdown timer is set to come on in advance a door interlock switch must be connected as described in the circuit diagram on page 6 7 and 14. Before B mode can be activated the sauna room must be checked by the responsible person to ensure there is no hazard such as combustible material left over the sauna stove etc – then the sauna cabin door must be closed before the setting can be made. Once the advance timer begins the countdown sequence the timing will stop if the door is opened and will not restart again until it is reset.



## 11. Trouble shooting Guide

Please Note that we recommend a suitably qualified person carries out all repairs.

Trouble description	Cause	Solutions
There is no display on the control panel when the on/off switch is pressed	There is a problem with; 1.Power supply or 2. Circuit board transformer or 3. Fuse	1. Chck the power supply. If the power supply indicator LED L1 (red) is on check the wire. 2. Change the controller
The controller is on but the sauna heater doesn't work	1 .The sauna heater hasn't been connected 2. There is a problem with the controller	1. Check the connection, refer to page 6 and 12. 2. Change the controller
OverHeat LED is on	1. The temperature sensor hasn't been connected correctly 2. The high tempeature cut off switch is turned off	1. Check the connection to the temperature sensor. 2. Check if the high temperature cut off switch is turned off, i yes, reset by hand
Door LED is on	During the advance timer countdown sequence ,the sauna room door has been opened , the timing stoped and will not restart again until it is reset.	Reset counter down timer
Wait LED is on red	Sauna heater is under B mode	Press the Mode button to change to A mode (heating Mode)
Temperature windows display -- L° or -H°	1. Thermometer isn't connected or cable is broken 2. The temperature is lower than 0°C . 3. The temperature is higher than 115°C	1. -- L°C means temperature sensor hasn't connected or the temperature is lower than 0°C check the connection, cable or change sensor 2. --H°C means there is a short circuit in the temperature sensor or the temperature is higher than 115°C check the connection,cable or change sensor. 3.Change controller.

### 12. Maintenance

We recommend that you inspect the sauna heater on a regular basis for any signs of deterioration of the condition, pay particular attention to both the fastenings, the condition of the wiring and the electrical elements.

Note if the rocks have started to crumble this can cause the elements to overheat and they should be changed for new rocks. We recommend commercial operators to change the rocks at least once every 12 months.

#### 12.1. Sauna Heaters & Sauna Cabins Maintenance

All Sauna products supplied by Direct Saunas Limited and Oceanic Saunas are for use in an indoor environment such as a domestic house or a club building and should not be used in any other circumstances.

#### 12.2. Sauna Maintenance

Dependant upon how regularly the sauna cabin is being used a series of maintenance checks should be performed on the sauna cabin and sauna heater to ensure that they are kept in a good state of repair.

For commercial users we recommend these inspections be conducted on a monthly basis by a member of the maintenance staff and detailed records kept.

For domestic use these checks should be carried out every 6 months.

Any obvious deterioration should be noted immediately if noticed in between maintenance checks and should be resolved before continuing use of the products.

Under no circumstances do we recommend operating the sauna cabin if any electrical wiring is considered to be hazardous, please contact your electrician or our technical department for assistance.

#### 12.3. Maintenance Checks

Please note all maintenance checks should be performed whilst the sauna cabin and sauna heater are cold.

#### 12.4. Sauna Heater:

Ensure the heater has been correctly disconnected from the mains electricity before these checks are conducted

1) Check sauna elements for signs of deterioration. Report any signs of deterioration to the supplier

2) Make sure all rocks are placed correctly onto the heater elements to ensure an adequate airflow around the elements. Note that the rocks will gradually crumble and settle around the elements which can then cause overheating, this may lead to early failure or even melting of the elements.

For commercial operators an electrician must periodically inspect and ensure all the wiring is in a good condition and all connections are good and tight – a good idea would be to have this carried out annually as for PAT testing.

### 12.5. Sauna Cabin

- i. Ensure all signage (safety and usage) is in place and in a readable condition.
- ii. Check the benches are secure and have no signs of deterioration, if benches have become loose ensure they are tightened correctly.
- iii. If there are any splinters on the bench sand over lightly until they have been removed.
- iv. Any major damage to the benches should be reported to the supplier and further advice will be given.
- v. Ensure the timbers surrounding the heater have not become charred. Any offending timber slats should be replaced in a reasonable time period.
- vi. Ensure that the heater guard is in place and conforms to the clearance distances stated in the sauna heater manual. Check for any signs of charring and replace the heater guard if it is showing signs of disrepair.
- vii. The sauna cabin should be kept in a clean and hygienic state at all times. It is recommended that the benches in the sauna are wiped down with a weak solution of disinfectant and water after each use we especially recommend this in commercial divisions. The floor in the sauna should be mopped regularly.

### 13. Warranty & After Sales

All Oceanic Sauna Heaters are guaranteed for 12 months from the date of purchase against faulty materials or workmanship. The guarantee excludes consumable items such as the electrical elements and faults arising from misuse or abuse of the appliance.

Elements last for 2500 hours, after this time has passed you should be expecting to buy new ones, premature failure can be caused by:

- A half filled rock basket.
- Rocks forced against elements from bad filling
- Customers throwing large amounts of water over the rocks, for heavy duty places we recommend screwing the bucket to the bench this prevents this from happening.
- Incorrectly wired heater.

For warranty claims and after sales service outside or the guarantee please contact your local Oceanic dealer.

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 01902 655425 or 01902 871127 technical help line.