

Oceanic

Sauna & Steam

Apollo Sauna Heater And Steam Unit with Saunarium Controls

Assembly and operating manual

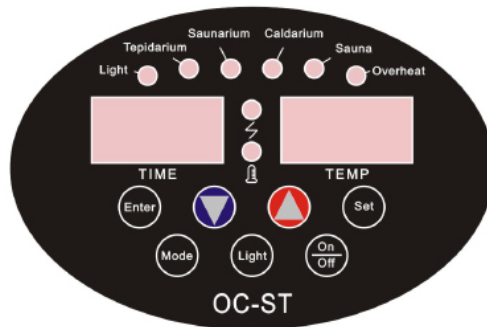


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1. Introduction

Thank you for choosing to buy our Oceanic Apollo Sauna Heater with steam unit and Saunarium controller please take the time to read these instructions before you begin as they contain important information about the installation and maintenance requirements.

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.
- This equipment is suitable for indoor use only
- Not suitable for marine use

3. Safety Precautions

- Elderly persons, pregnant women, or those 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 emitted from the steam generator will be scalding hot; ensure the generator is located in the correct position away from where users will sit and/or provide adequate guarding, post a notice to caution users.

The Oceanic Saunarium Controller (OC-ST) is designed to combine the use of the Oceanic wall mounted Sauna Heater and Steam Generator attachment to create a variety of humidity/temperature environments, these environments can be seen described on the next page in the chart and illustration.

The controller achieves these different humidity/temperature environments by changing the amount of power supplied to the Sauna Heater or Steam Generator.

Each switches between the amount of:

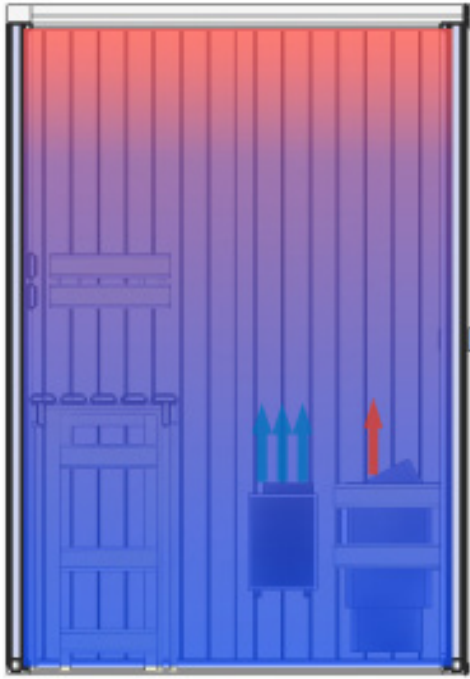
Temperature (minimum to maximum) and,

Humidity (Percentage of time the steam generator is working)

You will notice how the more the steam generator is operating the lower the maximum temperature you will be able to set. The reason for this being that the more water-moisture-humidity in the air, the more contact the heat has to your skin. For example a Sauna can be used at 100°C as the humidity is only approximately 5%, in a Steam room where you have 100% humidity it is uncomfortable to increase the temperature past 45°C. Our illustration on the next page should help you to understand the modes.

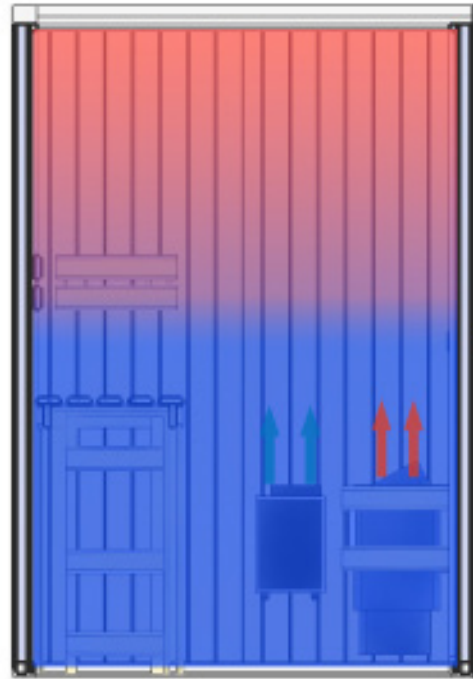
Tepidarium

Low Heat - High Steam
Max Temp 48°C - 50-60% humidity



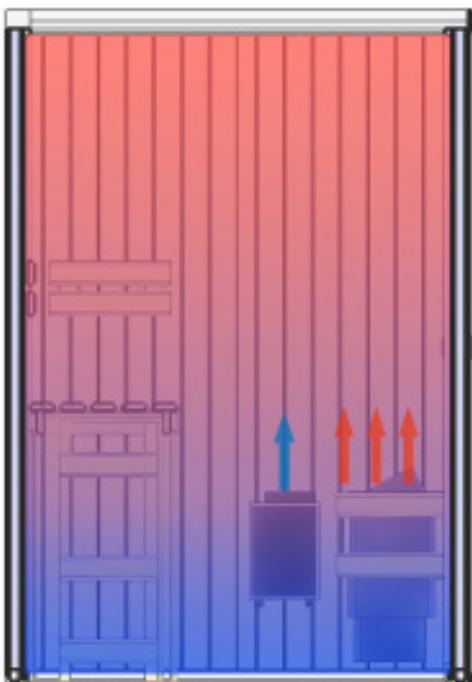
Saunarium

Medium Heat - Medium Steam
Max Temp 56°C - 40-50% humidity



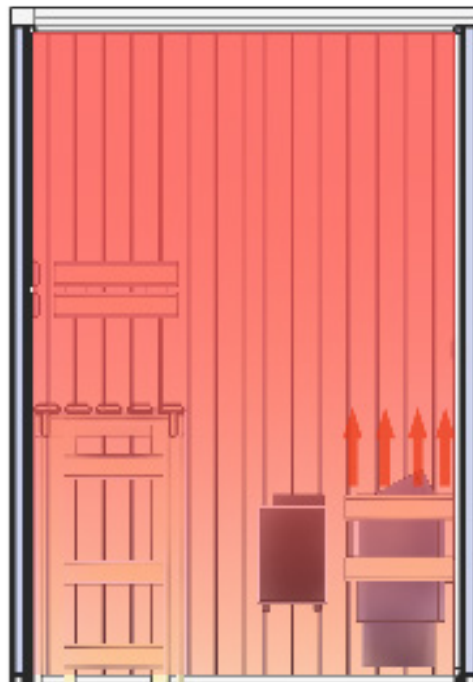
Caldarium

High Heat - Low Steam
Max Temp 65°C - 30-40% humidity



Sauna

Very High Heat - No Steam
Max Temp 100°C



4. Cable Requirements

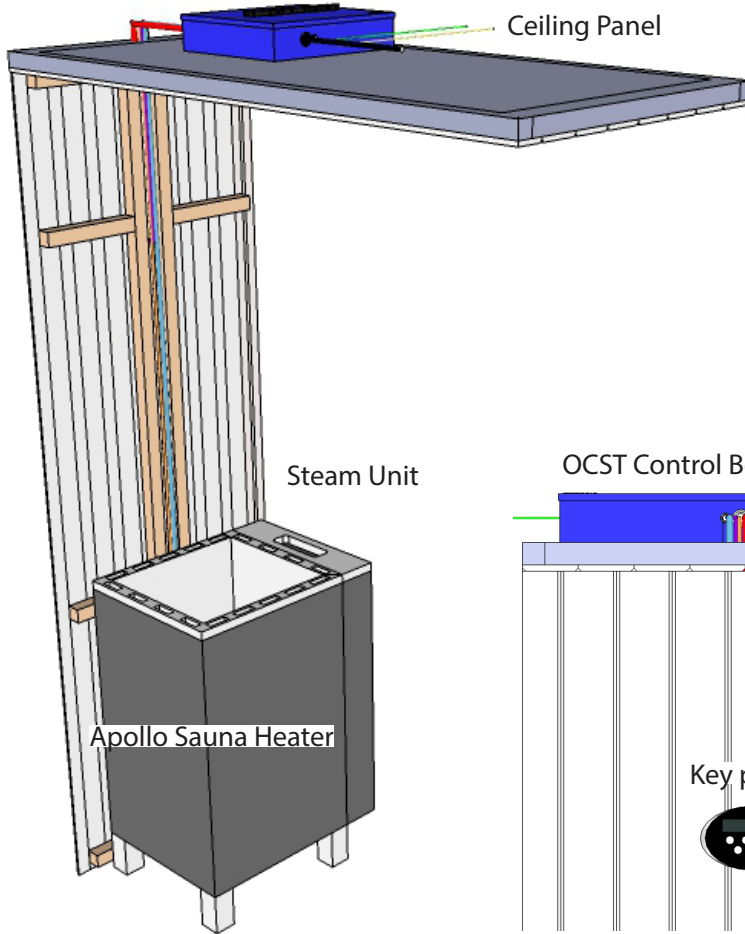


Fig 1a. Internal 3D View of

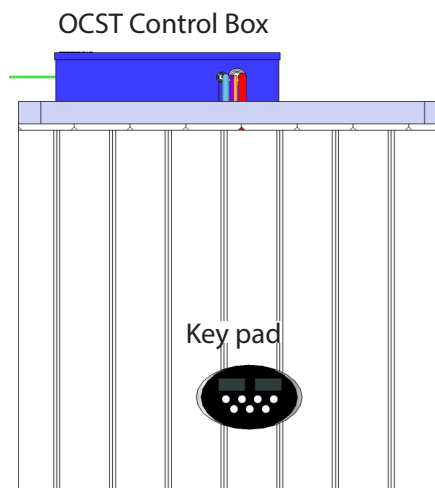


Fig 1b. External View of Wiring Panel

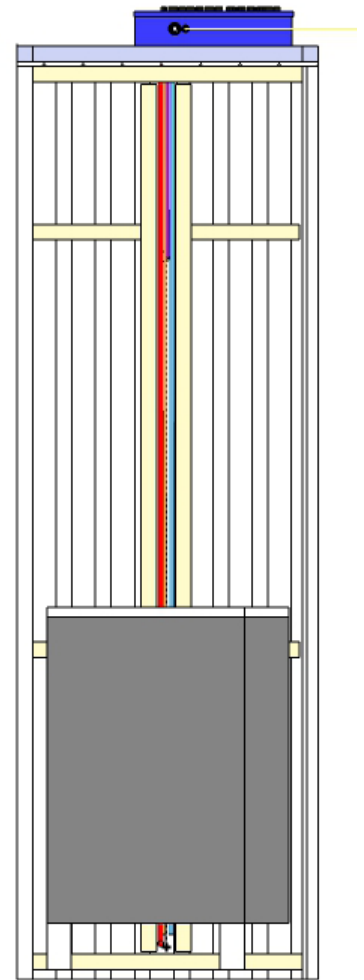
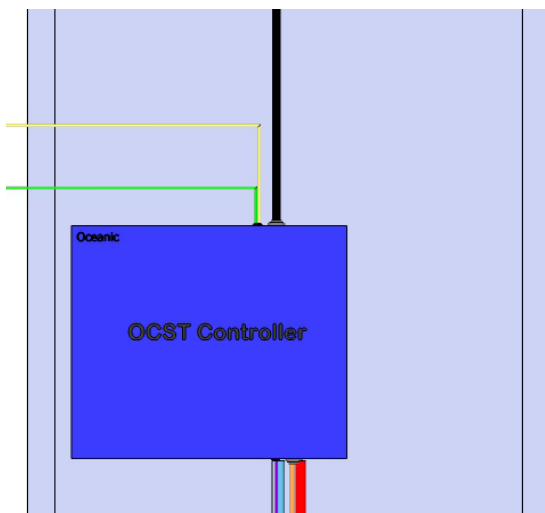


Fig 1c. Internal View of Wiring Panel with inner cladding removed to show internal cable routing

Note: A Wiring panel is supplied with Oceanic Traditional Finnish Saunas. The internal structure of the panel includes a conduit for cables to run through vertically.

Fig 1d. Plan View



Keypad must be located on the outside of the cabin.

All cables inside panel must be heat proof to 150°C

Cable Key

	3 or 5 Core silicon cable from mains supply to control box. 3 core 240V 1N / 5 core 400V 3N. Not Provided
	2 Core cable out from controller to lighting. Not Provided
	4 core wire to temperature sensor. 4m Provided
	5 core heat proof cable to sauna heater. Not Provided
	6 core 12V cable to Control Pad. 4m Provided
	4core signal cable to Steam Unit. 4m Provided
	3 core 2.5mm silicon cable to Steam Unit. Not provided

5. Sauna Heater Parameters

Chart 1. Heater Parameters

Model	Total Input Power kW	Heating element n×kW	Steam Unit Power kW	Sauna room volume min-max m3	Voltage VAC	Phase P	Current (A) (1N/3N)	Connecting cable n×mm2	Size mm	Stone (Kg)
OCAPS40	4.0	3×1kW (H1-H3)	2	2-4	230 or 400	1N	17.4	5×2.5mm	L:495 W:380 H:740	20~30
OCAPS50	4.5	3×1.5kW (H1-H3)	2	4-6	230 or 400	1N or 3N	21.7 / 7.5	5×2.5mm		
OCAPS60	6	6×1kW (H1-H6)	2	6-8	230 or 400	1N or 3N	26 / 8.7	5×4mm		
OCAPS75	7.5	3×1.5kW (H1,H2,H4) 3 x 1kW (H3,H5,H6)	2	7-10	230 or 400	1N or 3N	32.6 / 11	5×6mm		
OCAPS90	9	6×1.5kW (H1-H6)	2	9-12	230 or 400	1N or 3N	39/14	5×6mm		

5.1. Operating Parameters

Chart 2a. OC-APS40 Sauna Heater with Steam unit

Mode	Heater Power (kW)	Mini Steam Power (kW)	Total Power (kW)	Max Temp (oC)	Steamer Operation (%)
Sauna	3	0	3	100	0
Caldarium	2	2	4	65	80
Sanarium	2	2	4	56	90
Tepidarium	2	2	4	48	100

Chart 2b. OC-APS50 Sauna Heater with Steam unit

Mode	Heater Power (kW)	Mini Steam Power (kW)	Total Power (kW)	Max Temp (oC)	Steamer Operation (%)
Sauna	4.5	0	4.5	100	0
Caldarium	3	2	5	65	80
Sanarium	3	2	5	56	90
Tepidarium	3	2	5	48	100

Chart 2c. OC-APS60 Sauna Heater with Steam unit

Mode	Heater Power (kW)	Mini Steam Power (kW)	Total Power (kW)	Max Temp (oC)	Steamer Operation (%)
Sauna	6	0	6	100	0
Caldarium	4	2	6	65	80
Sanarium	4	2	6	56	90
Tepidarium	4	2	6	48	100

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Chart 2d. OC-APS75 Sauna Heater with Steam unit

Mode	Heater Power (kW)	Mini Steam Power (kW)	Total Power (kW)	Max Temp (oC)	Steamer Operation (%)
Sauna	7.5	0	7,5	100	0
Caldarium	5.5	2	7.5	65	80
Sanarium	5.5	2	7.5	56	90
Tepidarium	5.5	2	7.5	48	100

Chart 2e. OC-APS90 Sauna Heater with Steam unit

Mode	Heater Power (kW)	Mini Steam Power (kW)	Total Power (kW)	Max Temp (oC)	Steamer Operation (%)
Sauna	9	0	9	100	0
Caldarium	6	2	8	65	80
Sanarium	6	2	8	56	90
Tepidarium	6	2	8	48	100

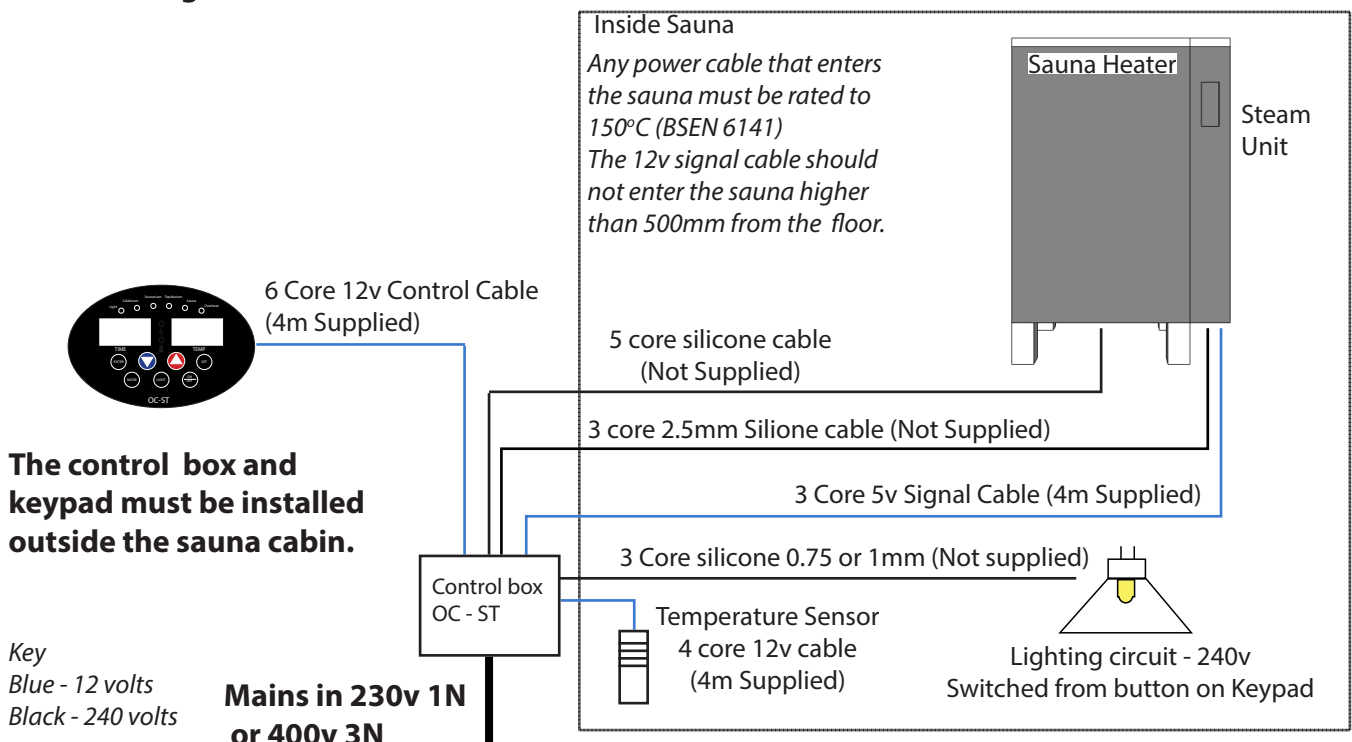
6. General Setup Overview

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.

Important Notice: Please pay close attention to the drawing below. The mains power is solely supplied to the OC-ST control and is diverted from here to the heater and steam generator. You must not wire directly from the mains to either the sauna heater or mini steam generator.

6.1. Wiring Schematic

Fig2. Wiring Schematic



7. Installing the Sauna Heater

- i. Confirm the model you have selected is suitable for your sauna room, please refer to the chart 1.
- ii. Ensure the power supply is suitable for the sauna heater, refer to chart 1.
- iii. The installation position must comply with the minimum distance in the chart 4 and in the diagrams Fig4a and 4b on page 10.
- iv. The minimum height of your sauna room must be 1900mm, please refer fig 4a
- v. The sauna heater is to stand on the ground, not on floor mat or other material.
- vi. Do not cover the sauna heater back with asbestos cement or similar material
- vii. The wires which enter the sauna room must be rated to 150°C- type 60245 IEC 66 HO7RN-F (BSEN 6141) please refer to chart 1 and fig 1 and fig 2. (The signal cable between control box and mini steam generator does not need to be changed to the silicone cable as long as it does not enter the cabin higher than 500mm from the floor.)
- 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 in case of accidental contact, please see the sizes in fig 2a, 2b, 4a and also refer to chart 4.
- x. Temperature sensors should be installed in sauna room but not directly above sauna heater, the height should be a minimum of 1800mm from floor. The horizontal distance to sauna heater should exceed 500mm.
- xi. Wash the rocks thoroughly before filling the basket. Discard any with veins running through or any rocks smaller than 50x50mm.
- xii. Fill the rocks loosely around the elements, try to use the larger rocks between the elements and use the smaller ones for the top.
- xiii. To prolong the life of your sauna you can use a heatproof board behind and above the heater to prevent charring, for commercial cases this should be more seriously considered.

8. Apollo Heater Guard (Optional Extra)

Note: If you are constructing an alternative heater guard it must NOT be installed above the height of the cover trim as the direct heat from the sauna rocks could cause the timber to burn and result in a fire. See page 13 for fixing steam unit to heater.

8.1. Assembling the Guard

- Locate the heater guard pack and remove the three timbers with mitred corners.
- The long side with two mitred corners fits to the two shorter lengths.
- Screw the lengths together using the 40mm screws into the predrilled holes.
- The dowel plugs should be tapped in to cover the screw heads then chiselled 1-2mm proud and sanded flush.

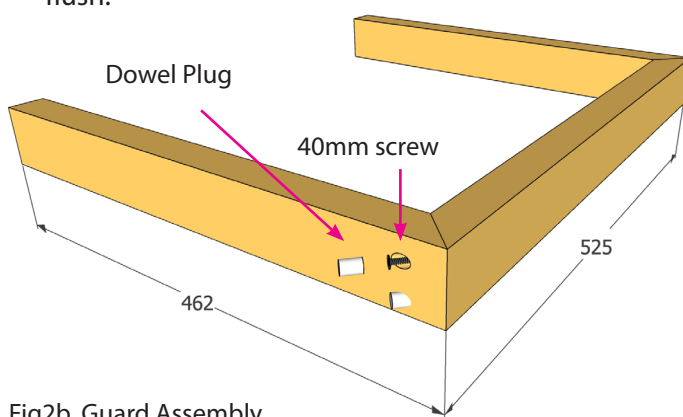


Fig2b. Guard Assembly

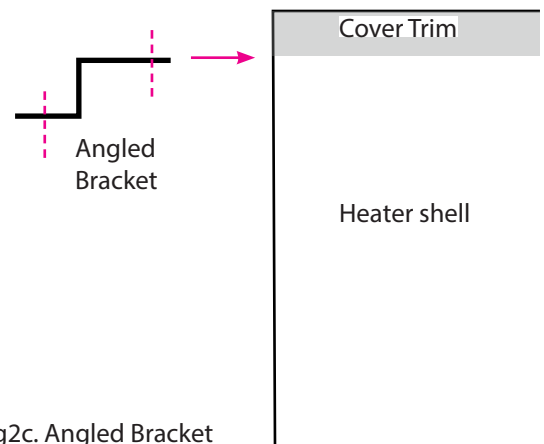


Fig2c. Angled Bracket

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8.2. Fixing the guard to the heater

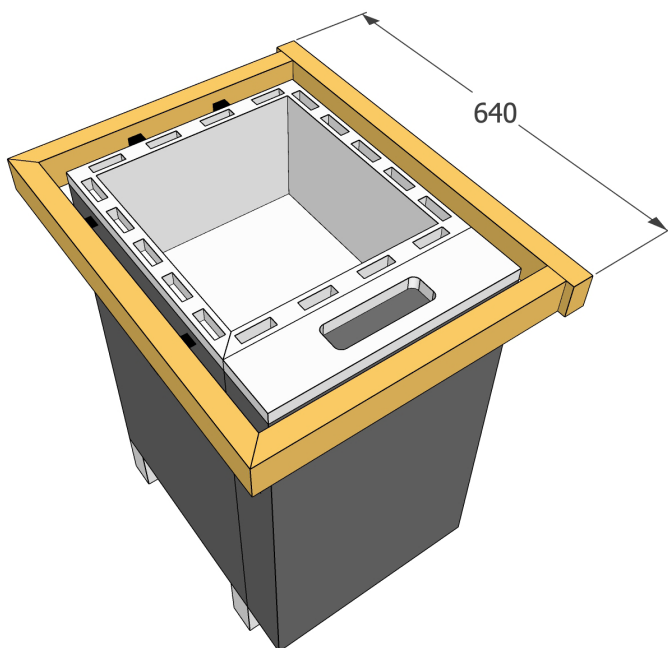
- Carefully remove one of the screws holding the cover trim in place (No. 1 - 3 on fig 2d)
- Slide one of the brackets beneath the cover trim so that the hole in the bracket lines up with the holes from the screw you have just removed.
- Fix the bracket in place with the same screw
- Repeat for the remaining brackets.
- Place the guard on top of the brackets and use a 1mm drill bit to pilot the holes into the bottom of the guard before fixing into place with the small screws provided.

The 640mm length timber should be fixed to the sauna wall using 40mm screws and the dowel

Fig2d. Guard Installation



Fig2e. Guard Rail



plugs at the same height as the guard. This rail can be trimmed down if you prefer but it will need to be 640mm if installed across a glazed panel from our Vision Range saunas.

Fix the guard to the wall rail using the 2No flat brackets and 35mm screws provided from beneath

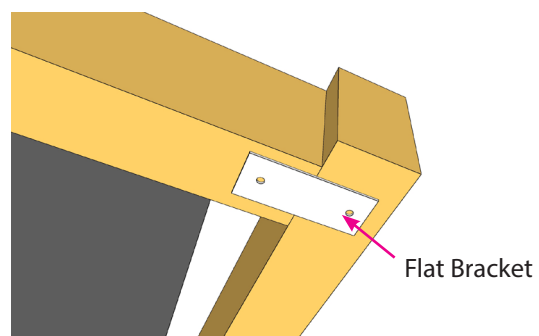


Fig2f. Flat Bracket

9. Sauna Rocks

Do not use the heater without rocks otherwise it may cause a fire. Only use the original Sauna rocks or the rock for use in heater. Do not use ordinary stones, which may emit harmful substances, easily break and do not possess good heating capacity. Wash the rocks to clear the dust before putting them into the heater. Rocks of unspecified sizes should not be used. Put the larger rocks at the bottom of stove compartment and the smaller ones on top. Do not pile them tightly so that air can flow freely. NOTE: Too tightly placed rocks decrease working time of the heater element. The diameter of rock is about 3-8cm.

Rearrange the rocks in the heater at least once a year or twice if it is in frequent use (maximum 500 hrs). To decide the correct volume of rocks in heater, refer to table 1.

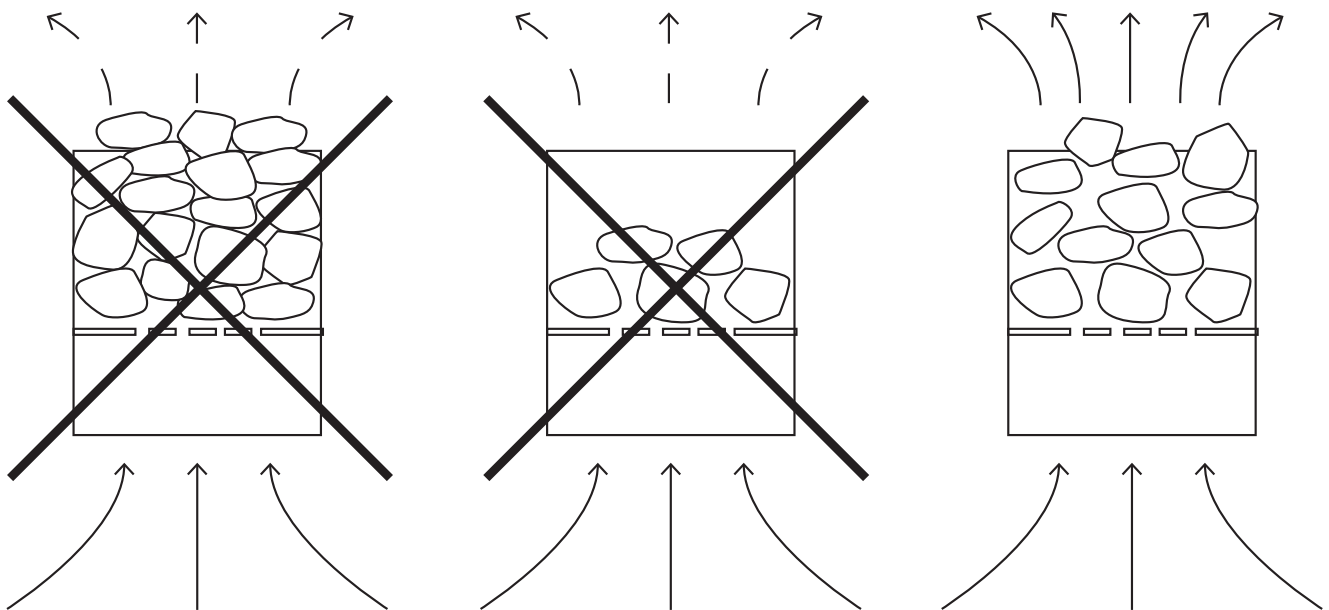


Fig2g. Sauna Rock Basket

9.1. Sauna Heater Parts

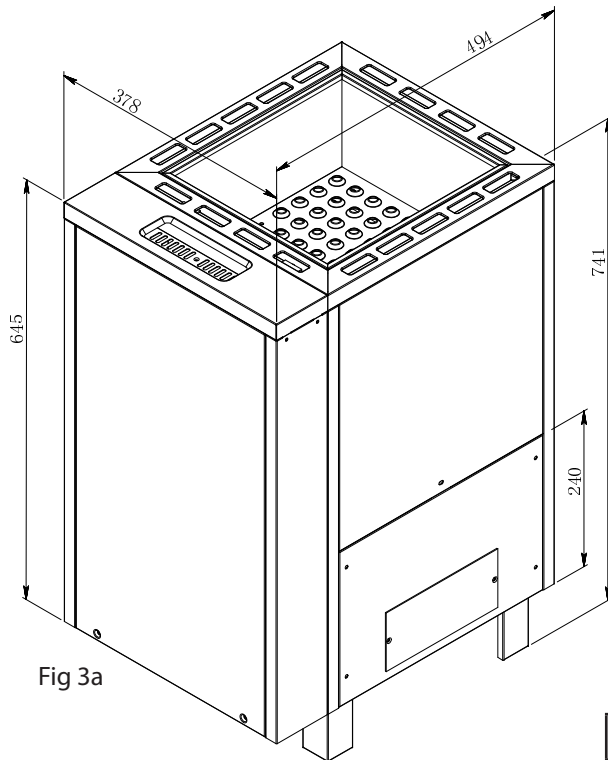


Fig 3a

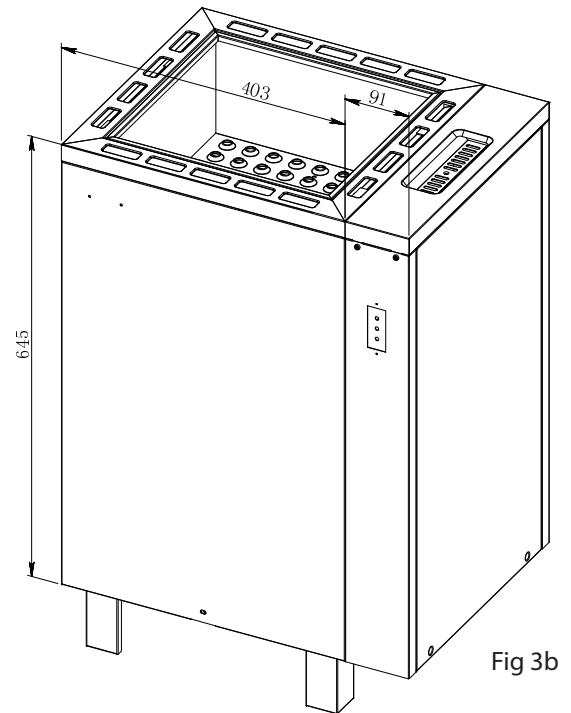


Fig 3b

Chart 3. Sauna Heater Part list

No.	parts	description
1	Cover Trim	Cover top edge of shell and rock basket
2	Rock Basket	Holds sauna rocks
3	Central Body	Contains Elements
4	Shell	Insulate the inner shell to prevent from scalding
5	Terminal	Connect the power supply
6	Power entry	The route of power wires
7	Cover Panel	Cover the electrical parts
8	Terminal plate	Access to terminals
9	Mounting bracket	To fix steam generator to heater central body
10	Feet	Raise heater off ground
11	Under tray	Collect excess water

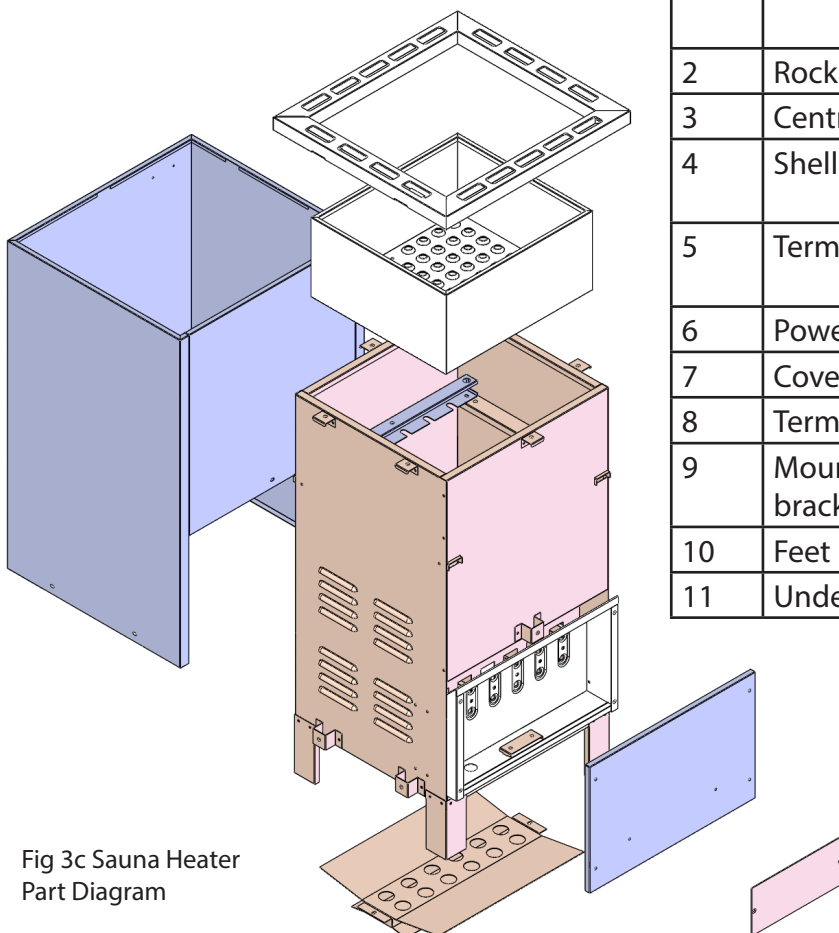


Fig 3c Sauna Heater Part Diagram

9.2. Minimum Clearnaces

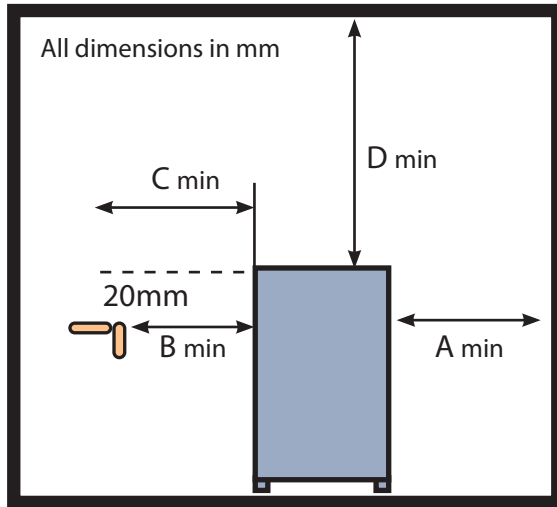


Fig 4a

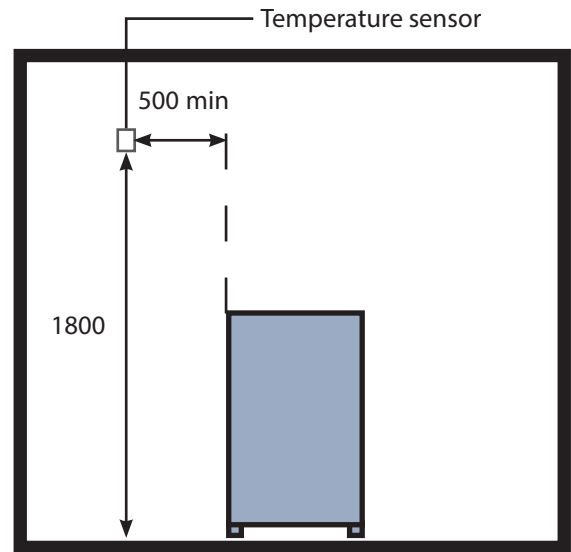


Fig 4b

Chart 4. Minimum Clearance Distances

Model	Minimum Distance (mm)			
	A	B	C	D
OCAPS40	50	50	100	1100
OCAPS50	80	50	100	1100
OCAPS60	100	50	150	1100
OCAPS75	130	50	200	1100
OCSAPS90	130	50	200	1100

9.3. Heater Circuit Diagram

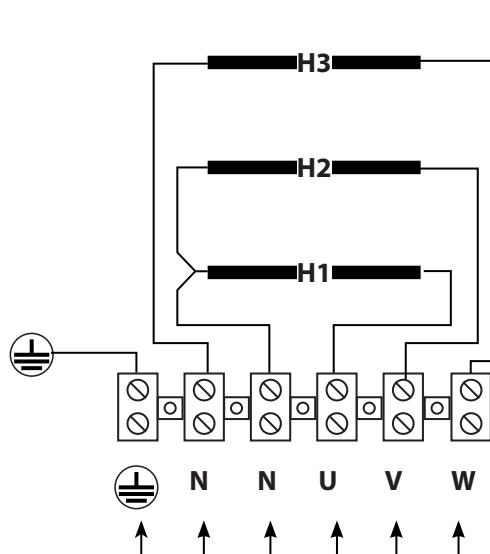
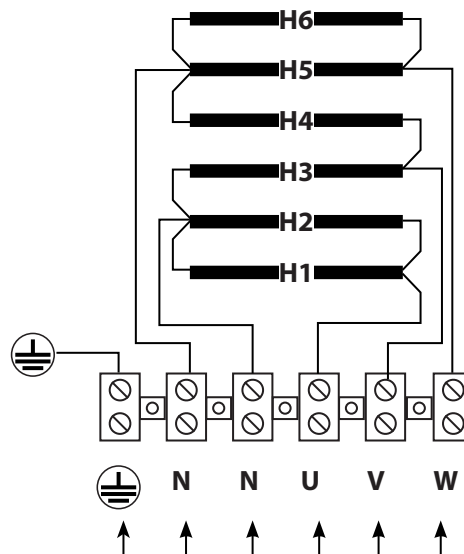


Fig. From control box Terminal
Fig 5.a OCAPS 40 / 50



From control box Terminal
Fig 5.b OCAPS60, OCAPS75, OCA90

10. Steam Generator Unit

10.1. Steam Unit Part Description

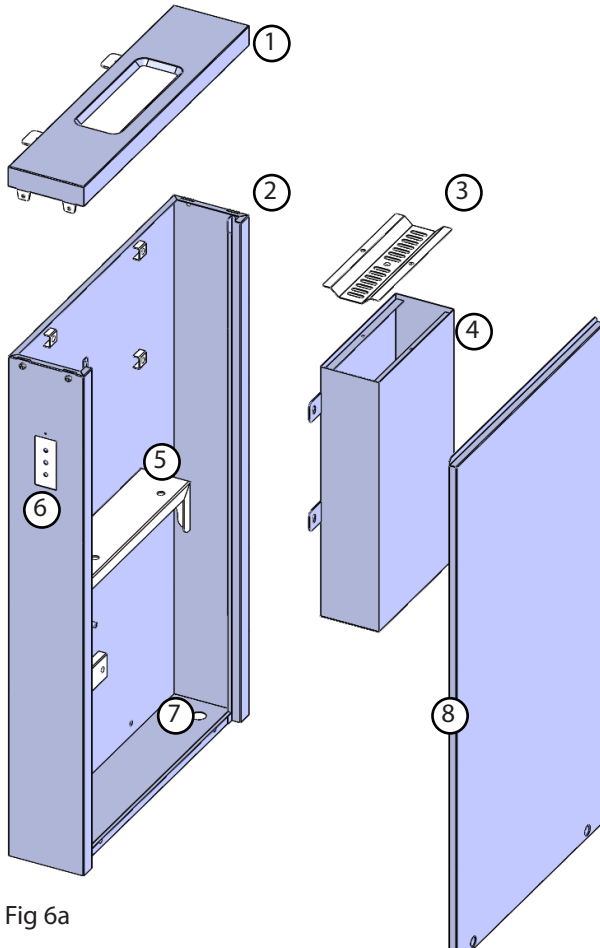


Fig 6a

Chart 5. Steam Generator Part List

No.	parts	description
1	Cover Trim	Cover top of generator
2	Main Housing	Contains generator unit and wiring terminal
3	Water tray	Water inlet and steam outlet
4	Steam tank	Steam unit contains water tank, elements, water level probe
5	Mounting plate	Fixed generator to housing
6	LED display	Displays water level
7	Cable Entry	For power and control cable entry
8	Cover Plate	Remove to access wiring terminal
9	Mounting bracket	To fix steam generator to sauna heater
10	Fixing location	To fix steam generator to sauna heater
11	Aroma Cup	Add aroma here - not in tank



Fig 6c
Aroma Cup

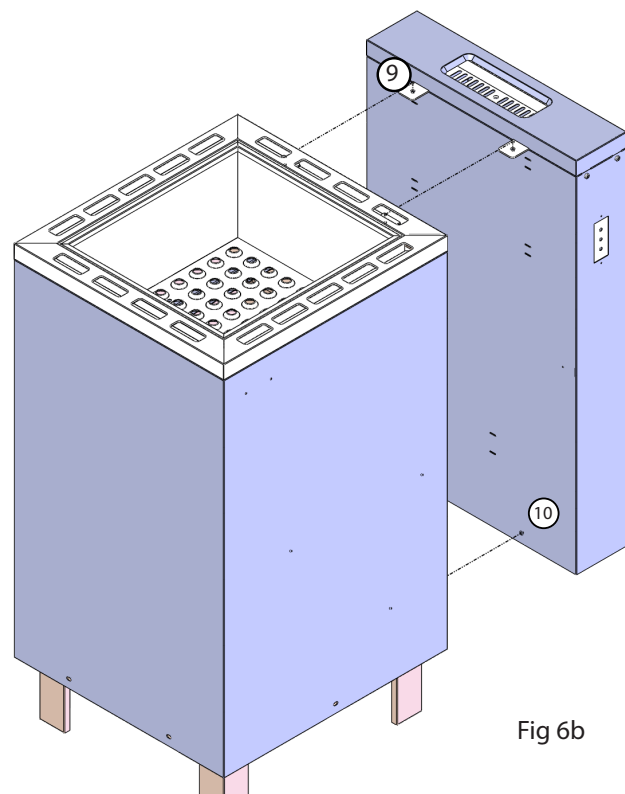


Fig 6b

10.2. Fixing Steam Unit to Heater

To fix the steam unit to the sauna heater:

- Carefully remove screws holding the cover trim in place.
- Line the mounting tabs on the steamer with gaps in heater cover trim
- Slide steamer into position and fix to tabs using the screws

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10.3. Safety Precautions

- The equipment must be installed vertically
- Stop pouring water into the boiler when the high level LED light (A) turns on. Don't let the water reach the holes in the top cover. You can release water using the valve at the bottom.
- If overheat indicator LED light turns on, cut off the power supply and do not turn back on until the problem has been resolved. If in doubt please contact our technical team.

10.4. Steam Unit Parameters

Chart 6.

Model	Power (kW)	Voltage (V)	Current (A)	Dimensions LxWxH (mm)
Steam Unit	2	210-240	4.2-4.8	220 x 100 x 340

10.5. Steam Generator Unit Circuit Diagram

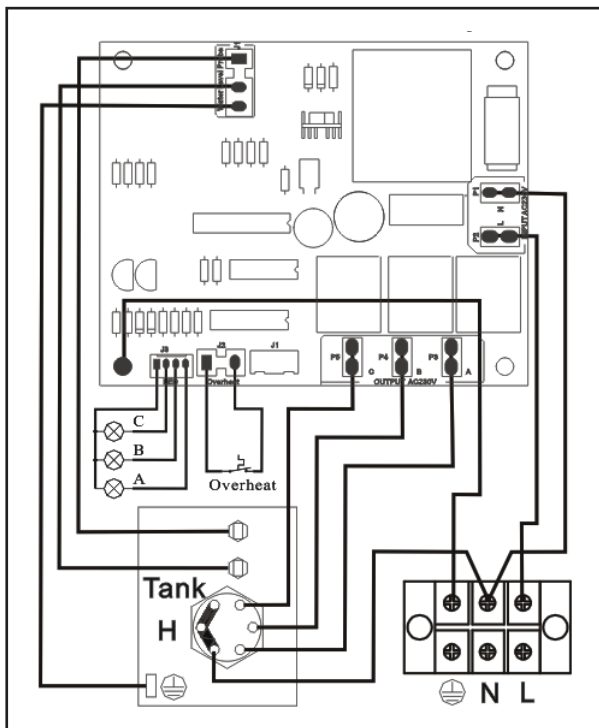
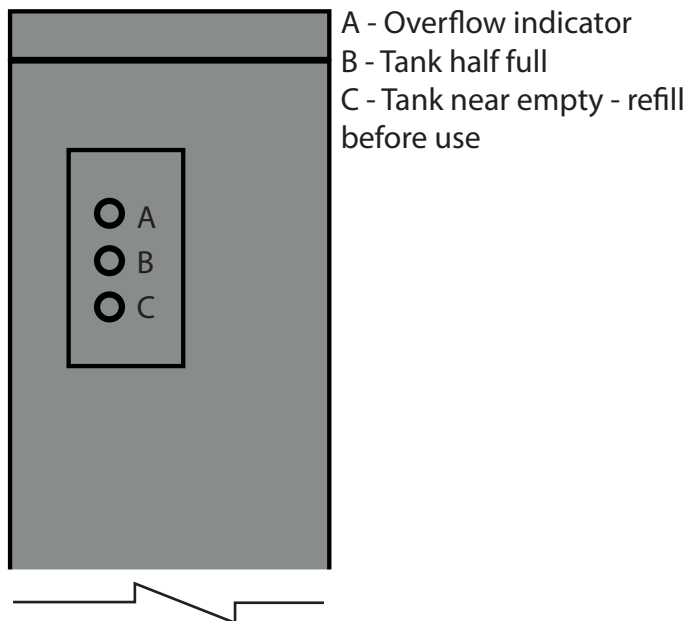


Fig 7.

Fig 8. Water fill LEDs



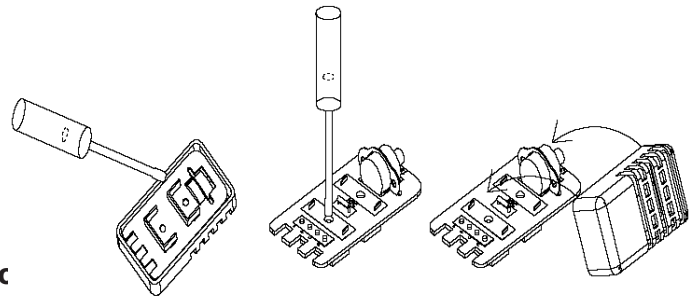
10.6. Steam Unit Water Filling Details

- Before using the room fill the steam generator until the A light illuminates and then stop. If you overfill, drain away some of the water before operating the controller as water will boil and spit out of the top which can be dangerous. There is a valve at the bottom of the unit which can be opened to drain the unit. Place a container beneath the valve before opening. The C light indicates the water is too low and should be refilled.
- If you intend to use Aromas ensure the aroma is diluted correctly and then add to the cup in the centre of the tray (fig 6c). Do not add aroma directly into the tank as it may cause boiling water to spit out of the top rather than steam.
- Make sure to drain down the mini steam generator at the end of your bathing session

10.7. Temperature Sensor

- Install the temperature sensor as in the Fig. 4b
- Open the cover with a screwdriver as in Fig. 9
- Fix the bottom of the temperature sensor on to wall with screw
- Replace the cover.

Fig 9. Temperature Sensor Installation



11. Saunarium Control Box

11.1. Saunarium Control Box Parts Descriptic

1	Wire anchorage
2	Terminal block
3	To Sauna Heater
4	To sauna heater wire anchorage
5	Control cable anchorage
6	To mini steam generator
7	for spare usage
8	lamp
9	To temperature sensor

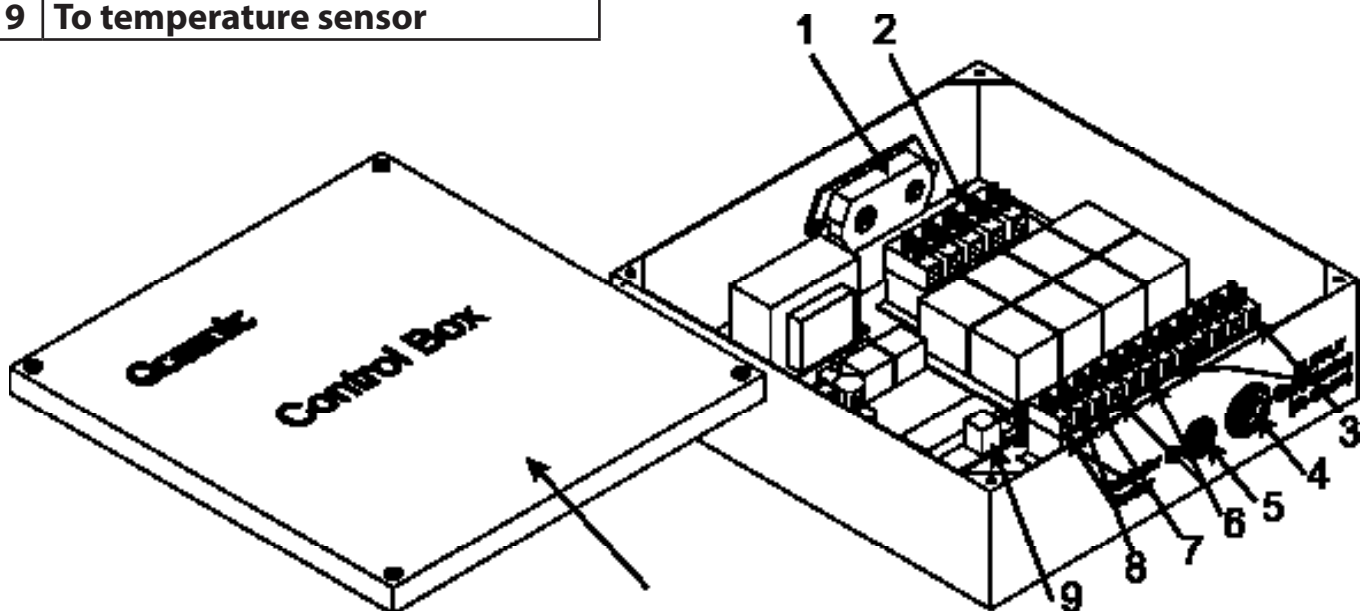


Fig 10. Control Box Parts

11.2. Saunarium Control Parameters

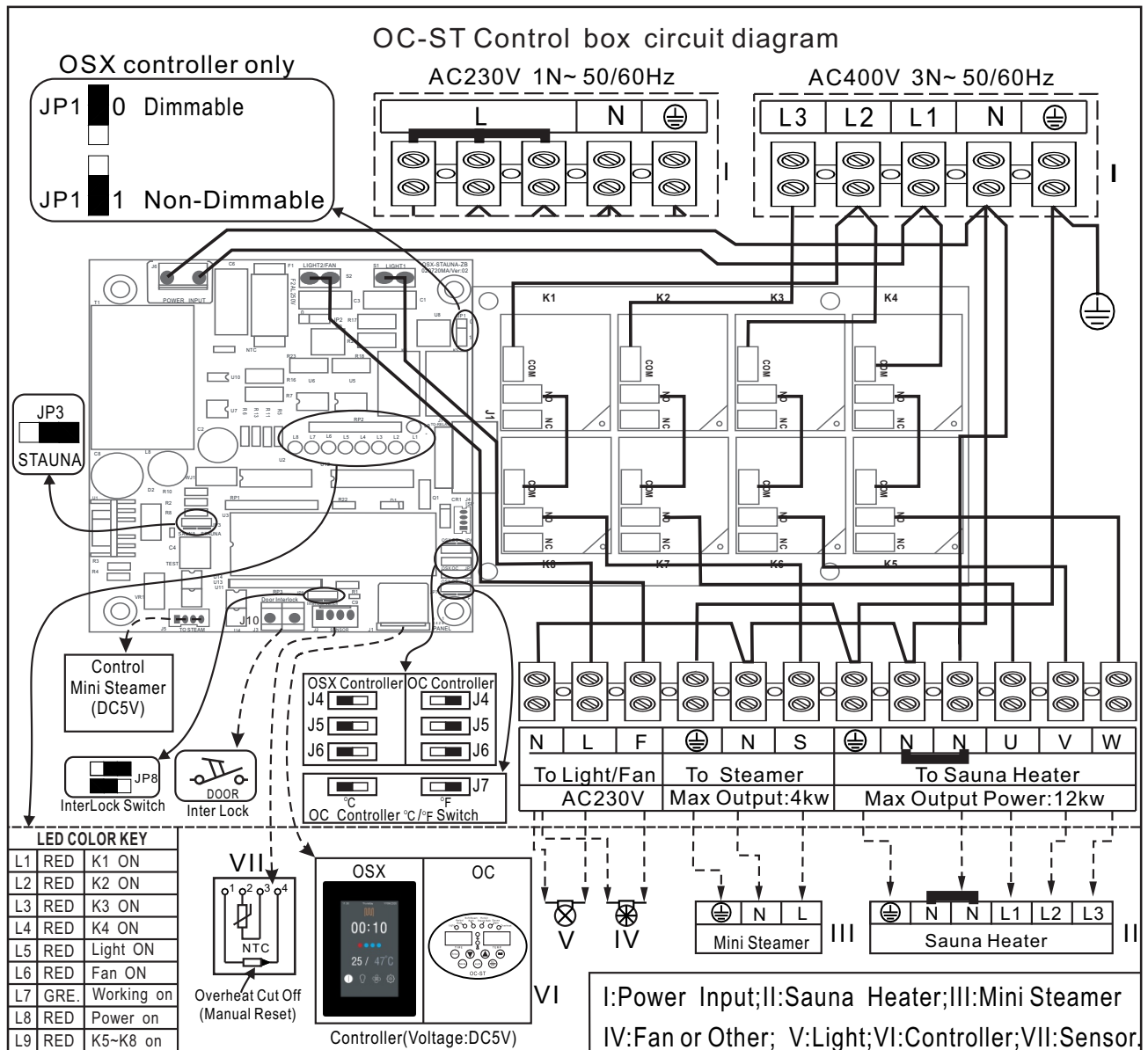
Model	Working Time (m)	Temperature (°C)	Dimension L x W x H (mm)
OC-ST	15-240	30 - 100 °C	150 x 92 x 22

11.3. Saunarium Control Box Circuit Diagram

This diagram can be found on the back of the control panel's cover.

For Single Phase 230V wiring link L1, L2, L3 with copper bridges as shown in diagram

Fig 11.

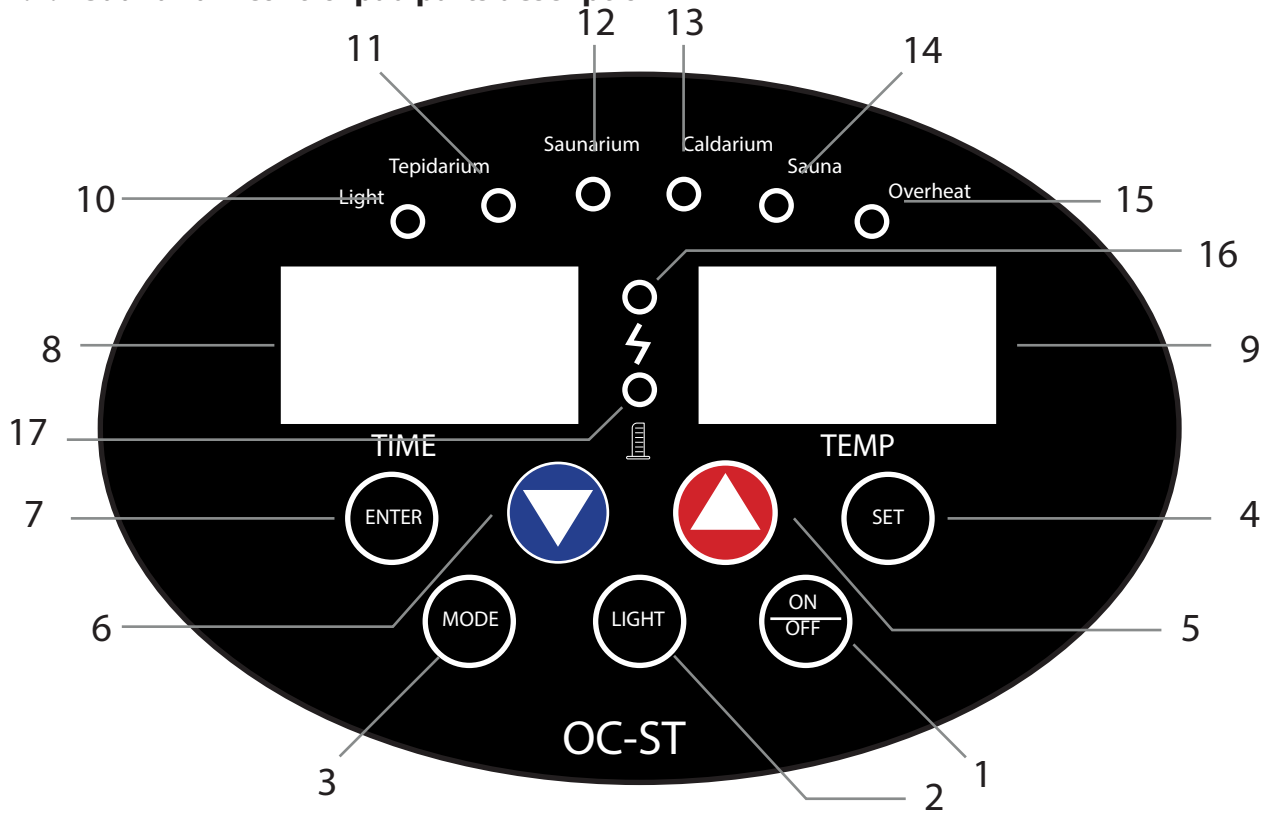


For OC Oval shaped keypad the switches J4,J5,J6 should be positioned to the right as shown in the diagram.

Note that light circuits cannot be dimmed with OC control system, only switched.

For saunarium (stauna) ensure switch JP3 is in the right position.

11.4. Saunarium control pad parts description



No	Part	Description
1	On/off	Push to turn the equipment on or off
2	Light	Push to turn on the light in the room.
3	MODE	Push to change mode
4	Set	Preset time and temperature - (you must press enter to save settings)
5	∧	Increase button
6	∨	Decrease button
7	°C/F / ENTER	Change from centigrade to Fahrenheit / Enter to save settings
8	Time display window	Display the work time of the sauna
9	Temp display window	Display the detected temperature of sauna
10	Light	Indicator LED for the light in steam room
11	Tepidarium	Indicated the Tepidarium setting has been selected
12	Saunarium	Indicated the Saunarium setting has been selected
13	Caldarium	Indicated the Caldarium setting has been selected
14	Sauna	Indicated the Sauna setting has been selected
15	Overheat	Indicator LED for overheat - turn machine off and wait for 1 hour before switching back on, if problem persists contact the seller.
16	L7	Indicates the detected temperature is lower than the preset temperature and sauna heater is heating.
17	L8	Indicates the detected temperature is higher than the preset temperature and the sauna heater is idling.

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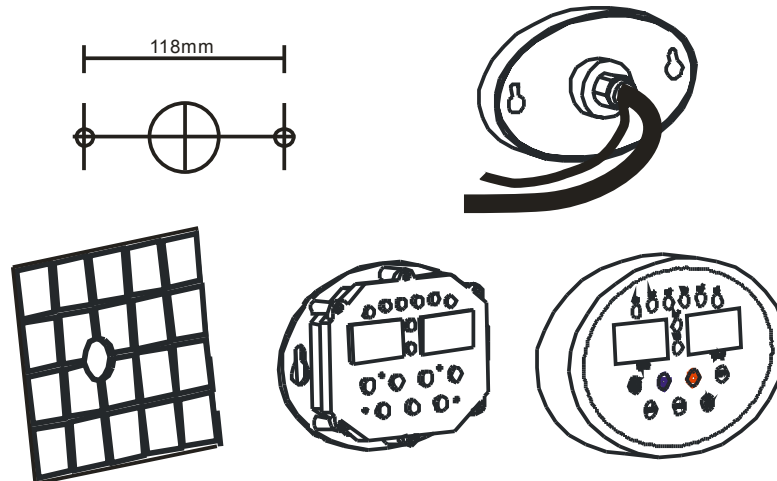
11.5. Installation for keypad

Keypad must be installed outside of the cabin. Ideally the keypad should be installed at a height of approximately 1200mm for ease of use.

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.

11.6. Put the keypad cover back on, check the cover is completely on so that all the buttons click when pushed.



11.7. Saunarium Controller Set up

- Both the Keypad and the Control box must not be installed inside the sauna. The control box can be located on top of the sauna and the keypad should be located on the front of the sauna normally on the front of a wiring panel.
- Push On/Off to switch on the system.
- The OC-ST Controller has 4 different heat settings which can be selected by pushing the 'MODE' button, an LED will indicate which mode ("atmosphere") you have chosen. Each press moves the LED one position from left to right. These "atmospheres" are explained on pages 4 and 7)
- Within each Atmosphere you are able to set temperature within the specified range. Once in the correct Mode Push 'SET' until the numbers in the temperature window are flashing. Use the Up and Down arrow buttons to select the required temperature. Once correct press Enter to confirm the temperature.
- The length of time for which the session will last can be set by pushing the Set button until the numbers in the time window are flashing. Change the value with the Up and Down buttons. Push Enter to confirm selection.
- Before using the room fill the steam unit until the A LED on the front of the steam unit illuminates and then stop. If you overfill, drain away some of the water before operating the controller as water will boil and spit out of the top which can be dangerous. There is a valve at the bottom of the unit which can be opened to drain the unit. Place a container beneath the valve before opening. The C LED indicates the water is too low and should be refilled.
- If you intend to use aromas ensure the aroma is diluted correctly and then add to the small cup on top of the steam unit. Never use the aroma without diluting.
- Make sure to drain down the steam unit at the end of your bathing session.

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 into the rock basket to ensure an adequate airflow around the elements. Note that the rocks will gradually crumble and which can then cause overheating, this may lead to early failure 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. Steam Unit Maintenance

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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 seriously depleted by poor maintenance.

All users 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 water

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

Descaling procedure

i. iii. Fill the machine using a funnel with 1 litres of pre mixed citric acid.

iv. Replace the probe and reconnect.

v. Heat the machine for 2 minutes.

vi. Leave the machine for 4 hours minimum

vii. Drain 2-3 times using the valve at the base of the unit

Follow the instruction supplied with the crystals and allow sufficient time for the solution to dissolve the scale before flushing out the generator. For best results add to water, steam for two minutes then leave overnight. Empty the next days and flush twice using drain cycle.

Faults arising from a result of a failure to descale the generator are not covered by warranty

13. Guarantee

All generators and heaters 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 failure to descale.

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.