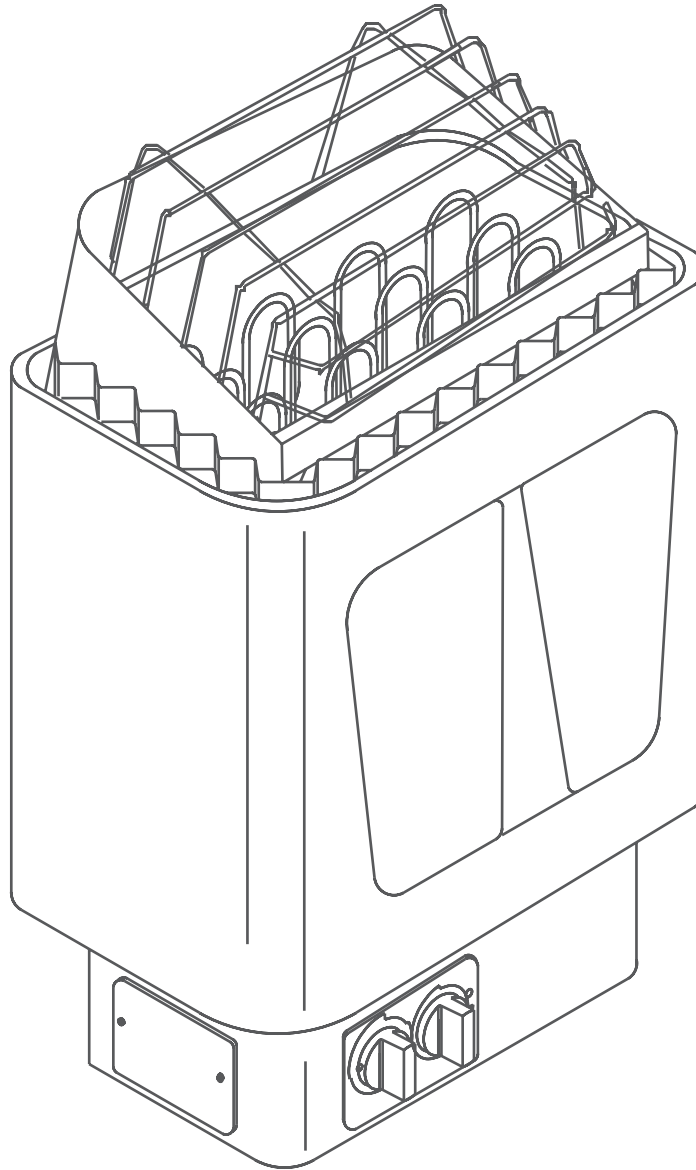


# STEAMIST®

Steamist Sauna Heaters

Models: SMS-45, SMS-60, SMS-60R, SMS-80, SMS-80R, and SMS-80R-3



**Attention Electrician! This manual must be left with the owner or operator of the sauna after installation!**

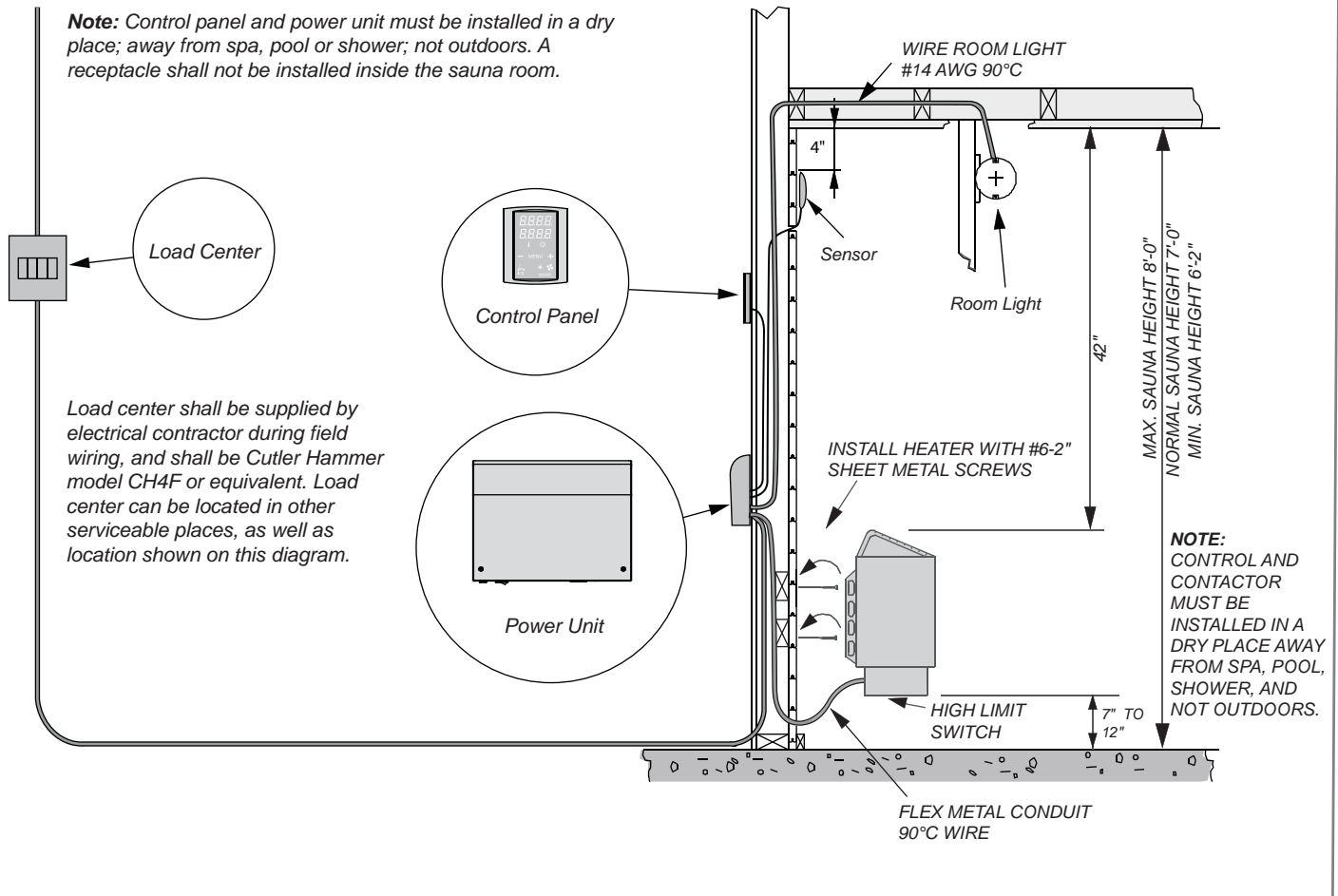
*This manual contains installation and operating instructions, wiring specifications, maintenance and field repair, and warranty information.*

**Control Models:** S170-1 and S170-3

Figure 1 - Digital Sauna Control S170-1 & S170-3

The Sauna Room shall be provided with proper ventilation.

**Note:** Control panel and power unit must be installed in a dry place; away from spa, pool or shower; not outdoors. A receptacle shall not be installed inside the sauna room.



**Installation of Wall Model Heater, Control and Power Unit**

1. Remove heater from carton and attach to the wall with supplied screws. If wall thickness is less than 3/4", use 2"x4" wood bracing in the wall cavity behind the heater. Observe proper clearances as per Figures 1-5.
2. See applicable wiring diagram (figures 6) for heater model. Heater must be hard wired directly, with no pigtails or plug connections. Wiring must be done by a licensed, certified electrician. All wiring must adhere to local and national codes. Use proper AWG wire size and use copper wire suitable for 90°C within the wall cavity. Use grounding terminals provided in sauna heater, and power unit, to properly ground the equipment in accordance with local and national codes.
3. Refer to Table 2 to determine applicable control for heater. For units with Digital Sauna Control S170-1 or S170-3 refer to Pub. No. 572 for installation instructions.
4. Inside the heater box there are two signs. Place the metal "CAUTION" sign on the interior wall of the sauna room directly above the heater in a visible place. Place the

metal "WARNING" sign on the outside of the sauna door. The maintenance instructions are at the end of this manual.

5. Before testing the heater, fill the rock cavity with the igneous rocks provided with the heater and fasten the metal rock guard at the top of the heater. See Page 8 for specific instructions regarding washing and placement of the stones as well as heater operation.

Figure 2

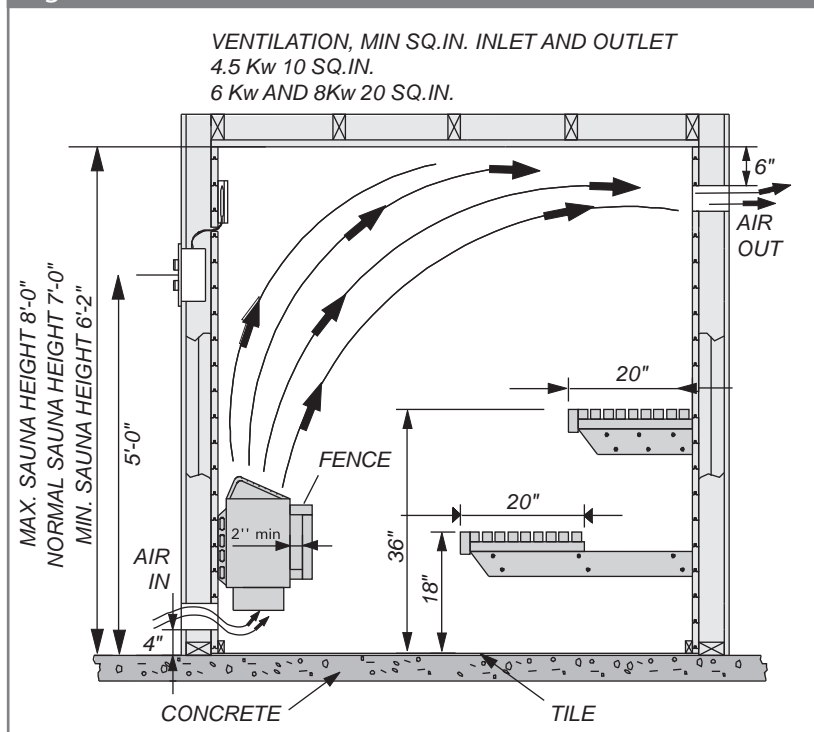


Figure 3

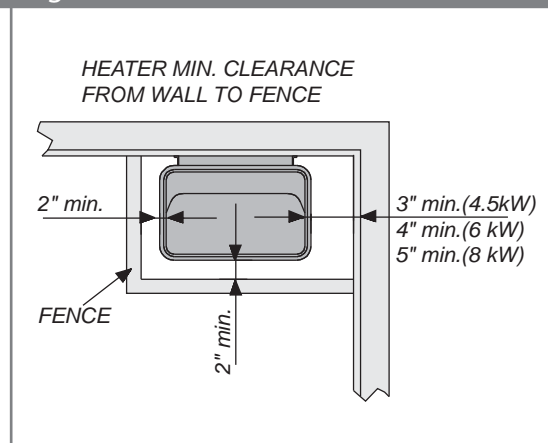


Figure 4

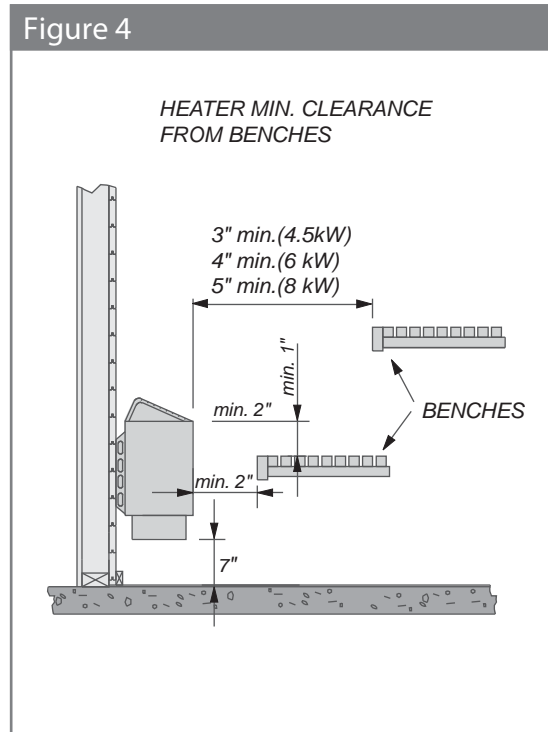
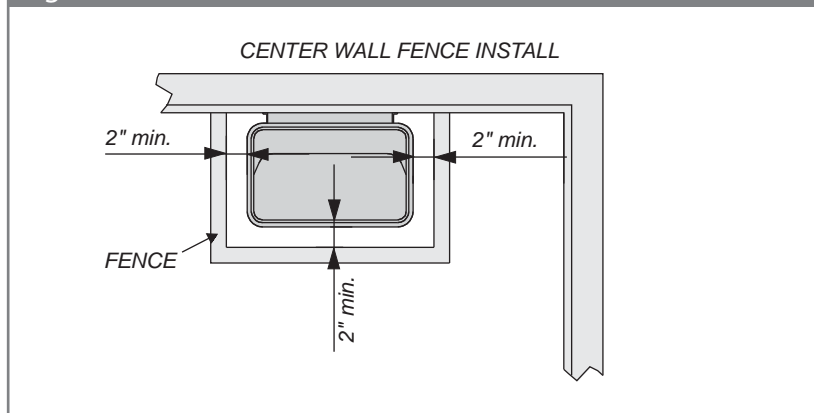


Figure 4a



The Sauna Room shall be provided with proper ventilation wall-mounted heaters-minimum clearances, min-max space, and adequate ventilation.

**NOTE:** The Sauna Room shall be provided with ventilation according to the diagrams listed above. Installation of all heaters must adhere to the minimum clearance requirements as listed in this manual.

Table 1

Model	Heater kW	Minimum Ceiling Height	Minimum Floor Area in Square Feet	Maximum Floor Area in Square Feet	Sauna Room Minimum Cubic Feet	Sauna Room Maximum Cubic Feet	Minimum Spacing From Adjacent Surfaces
SMS-45	4.5 kW	74 inches	16	30	100	210	3 inches
SMS-60	6 kW	74 inches	28	40	170	300	4 inches
SMS-80	8 kW	74 inches	40	65	250	425	5 inches

Figure 5

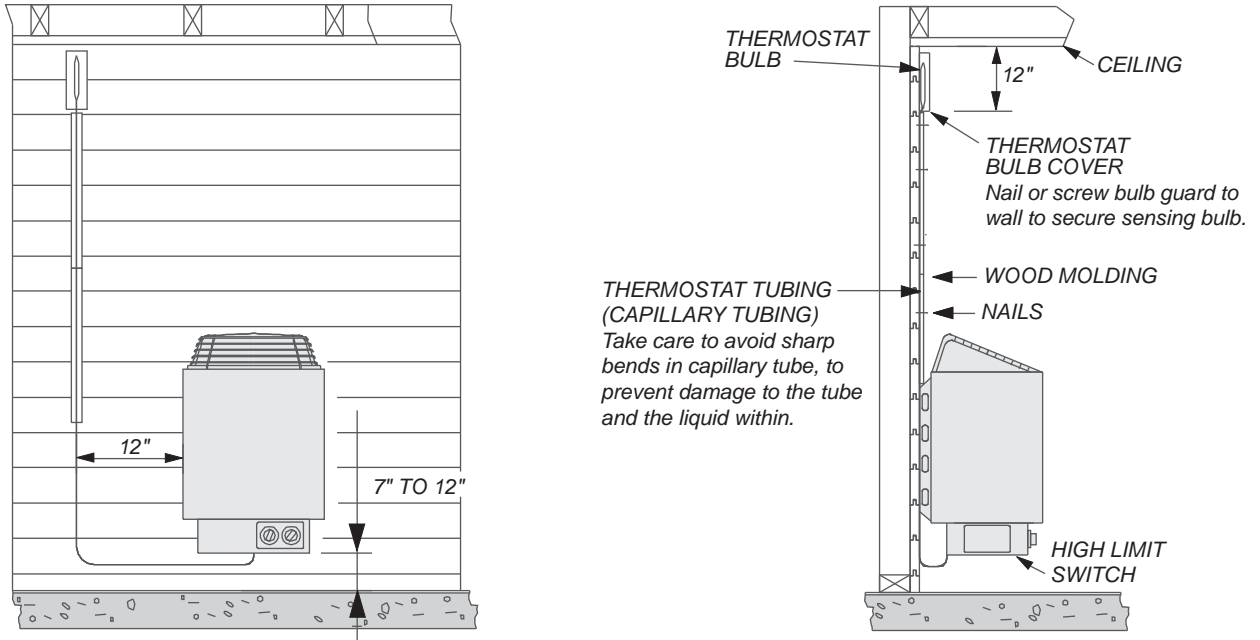
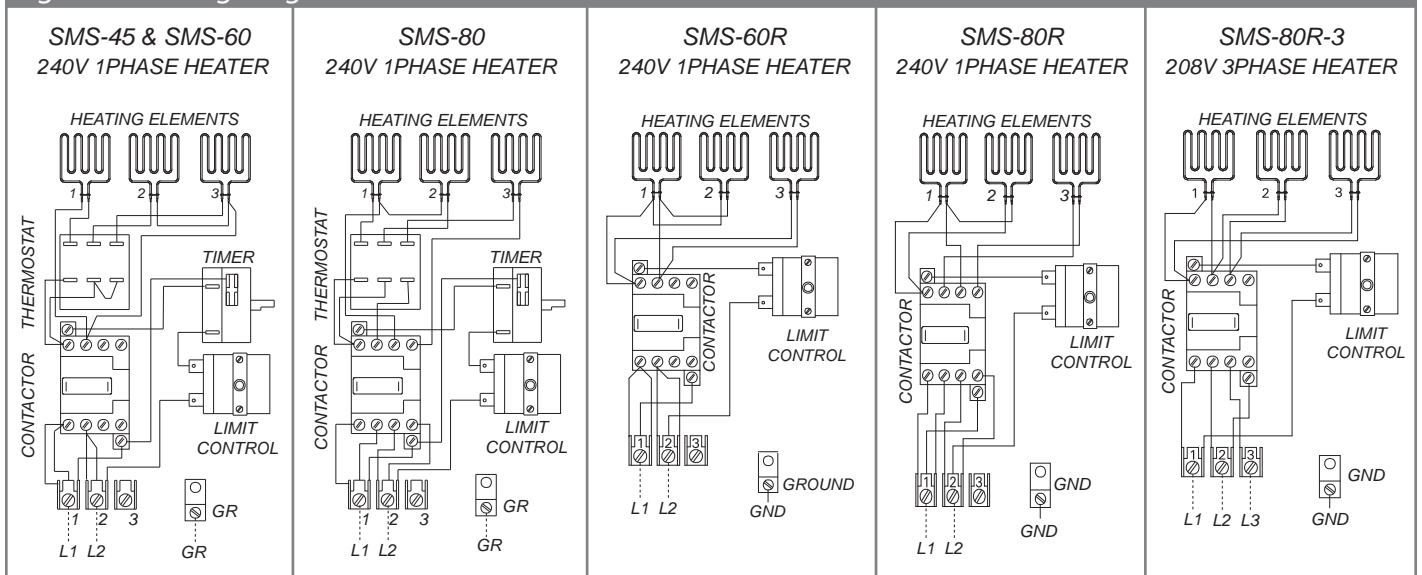


Table 2 - Sauna Heaters

Model	Heater kW	Watts	Amps	Volts	Phase	Minimum 90°C Copper Wire Size AWG #	Breaker	Control
SMS-45	4.5	4,500	18.8	240	1	10-2	25A	Built-In
SMS-60	6	6,000	25	240	1	8-2	35A	Built-In
SMS-80	8	8,000	33.3	240	1	6-2	45A	Built-In
SMS-60R	6	6,000	25	240	1	8-3*	35A	S170-1
SMS-80R	8	8,000	33.3	240	1	6-3*	45A	S170-1
SMS-80R-3	8	8,000	22.2	208	3	10-4*	30A	S170-3

\*Note: neutral wire required

Figure 6 - Wiring Diagram



## Wall Mount Heater Installation

### Wall Mount Sauna Heater Installation

**Heaters with a Digital Sauna Control S170-1 or S170-3 see a separate Pub. No. 572.**

**NOTE:** Before connecting electrical supply wires to the heater junction box, remove capillary tubing and bulb from the junction box and mount on the wall to the left or right side of the sauna heater as shown in Figure 5. Cover capillary tubing with wooden chase piece. Coil excess tubing and position under the heater close to the floor. Be sure to cover the thermostat bulb with the protective metal cover by threading the bulb through the holes in the cover and fasten bulb cover to the wall with the screws provided. Take care not to puncture, kink or cut the capillary tube.

Refer to Table 2 on previous page for proper wire size and

amperage. See Figures 1-5 for the required clearances. Any wiring within the sauna walls must be rated for 90°C and all copper wire must be used. Run wire through flex conduit from the wall to the heater and connect to the junction box at the back of the heater with a 90 degree connector. Remove cover plate from junction box and connect supply wires to terminals marked 1 and 2. Connect ground wire to lug marked ground.

If connection to the heater will be made at a later time, bring flex conduit into the sauna room 4 to 6 inches from the floor and leave about 3 feet of flex conduit for connection to the heater. See page 7 for specific instructions regarding the washing and placement of stones as well as heater operation.

## Steamist Built-In Timer Controls

### SMS-45, SMS-60 and SMS-80 Models

The SMS-45, SMS-60, and SMS-80 model sauna heaters are supplied with a dual-function timer that allows the user to "pre-set" the timer up to 8 hours in advance. The timer has a 60 minute time cycle (the large print "0" and "1" on the dial). If you wish to use the full 60 minute time cycle, turn the timer knob clockwise past the "1" setting on the dial. Then turn counter-clockwise until a "click" is heard. This indicates that the timer is now engaged. The sauna will now operate for 60 minutes and shut off automatically.

**NOTE:** If the time is set past the "1" on the dial, the sauna heater will not come on until the timer counts down to the 1 hour mark. Please note that this is a motorized timer and does not make a ticking sound.

Allow your sauna heater at least 30 minutes to heat up the room to the desired temperature.

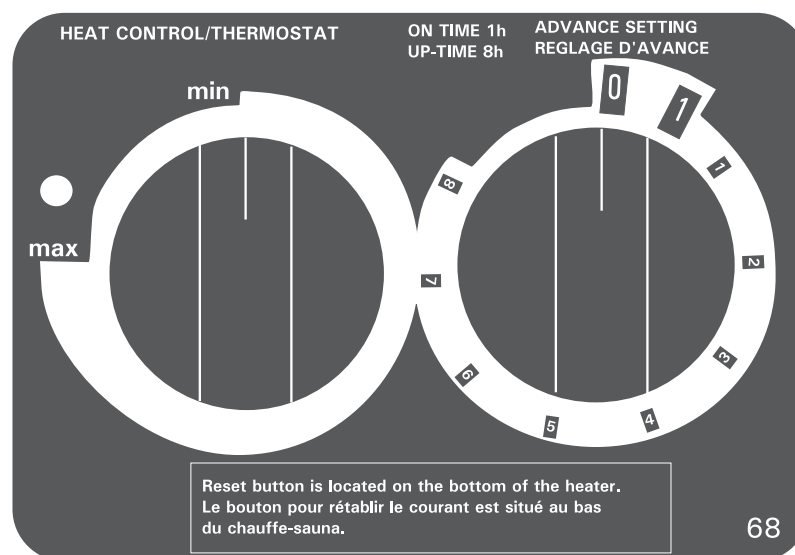
The timer has the added feature of advance settings of up to 8 hours. To use the advance setting feature, turn the timer counter-clockwise until you reach the small numbers 1-8. Set the time clock to the desired advance program. The

sauna heater will begin the countdown to the 60 minute heat cycle. For example - if you want your heater to begin heating in 3 hours, just turn the knob counter-clockwise until the small 3 is reached. Your sauna will be ready for use in approximately 3 1/2 hours (allowing for a 30 minute heat up time).

#### Thermostat Control

The SMS-45, SMS-60, and SMS-80 sauna heaters also come equipped with a thermostat control. Most sauna bathers will need to experiment with the thermostat control for the first few sessions in order to determine the most suitable temperature. For the initial heat up cycle, set the thermostat at it's maximum setting. Observe the temperature within the sauna, as indicated by a separate sauna thermometer (available separately from your Steamist sauna dealer). Allow the heater 30 minutes to heat the room. If the room is too hot, just turn the knob counter-clockwise and allow the room to cool to the temperature you desire. It may take a few adjustments to reach the optimal sauna temperature.

## Dual Function Timer



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## Steamist Sauna - General Information

### Placement of the Sauna Rocks

Do not operate the sauna heater without the stones. Use only the stones that are supplied with the sauna heater. Wash stones with water and place them inside of the heater so that the rocks are between and around the heating elements. Take care, however, not to force the rocks between the elements. Use smaller stones first and continue to fill the heater with larger stones until they are about 2" below the rock guard. You may not need all of the stone.

STONES SHOULD BE PLACED LOOSELY WITHIN THE HEATER SO THAT THERE IS AMPLE HEAT CIRCULATION AROUND THEM. STONES SHOULD ALSO COVER THE HEATING ELEMENTS COMPLETELY!

POURING WATER DIRECTLY ON EXPOSED ELEMENTS COULD GREATLY DECREASE THE LIFE OF THE ELEMENTS!

### Testing of the Sauna Heater

- 1) After the sauna heater has been wired according to the appropriate wiring diagram as well as local and national codes, turn the sauna breaker on at the main panel. Make sure that the circuit breaker for the sauna is labeled.
- 2) Turn the thermostatic control to the "ON" position. The thermostat control is located either on the sauna heater or the remote wall control. If you have a wall control, the indicator light will come on, indicating that the sauna is heating. Set the timer for 15 minutes.
- 3) Within 5 minutes, you should be able to feel heat from the heating elements when holding your hand over the heater.
- 4) If the sauna does not heat, refer to the troubleshooting information listed below.
- 5) It is normal for a small amount of smoke to appear during the first heating, as a protective element coating needs to burn off. Turn the sauna on for 1 hour prior to using for the first time, to eliminate smoking and ensure the consistency of the sauna rocks.

### Troubleshooting

#### A. If the sauna does not operate after initial installation and wiring:

- 1) Check to be sure that the breaker is on. Also, make sure that the breaker is the correct size.
- 2) Make sure that the neutral wire has been included. A neutral wire is necessary for all heaters except those with a built-in control.
- 3) Check the circuit breaker in the contactor to make sure that it has not been shorted out.
- 4) Be sure that the thermostat and timer are in the "ON" position.
- 5) Check the timer to make sure that it winds down. If the timer has been shorted out, the heater will not operate.

#### B. If the heater has been in operation, but ceases to operate:

- 1) Check the circuit breaker to make sure it is on.
- 2) Check the timer to see if it winds down.

- 3) Check the high limit reset button. The high limit reset is located under the heater on the wall mount models and on the back of the junction box on the floor models.
- 4) Call your electrician or local service person for additional help.

**NOTE!** A ground fault interrupter (GFI) should not be installed in and does not belong in a Sauna. If used, the breaker will trip, and damage could result.

#### C. If Sauna Heater operates, but sauna room does not reach desired temperature (160-185F is considered normal sauna temperature).

- 1) Make sure you allow at least 30 minutes heat up time.
- 2) Make sure that the sauna thermometer is located 6 inches down from the ceiling and is located close to the heater. Temperature readings will vary according to placement of the thermometer.
- 3) Check for the proper wire size and type as specified in this manual.
- 4) Check placement of the stones in the heater. Stones should be placed loosely around the elements, to ensure adequate air flow.
- 5) Check for heat loss within the room. Gaps around door openings, excessive use of glass in windows, etc.
- 6) Is the room properly insulated?
- 7) Is the ceiling higher than 7 feet?
- 8) After checking all of the above, remove the rocks and visually inspect the heater elements for holes or burned areas.

#### CAUTION! Electrician or Service Person.

- 1) Before servicing, turn power off at the breaker!
- 2) Make sure all wiring connections are secure.
- 3) Check for burned spots or shorts in wiring of timer or thermostat.

**NOTE: Warranty is void on Steamist heaters and controls if the installer or electrician fails to follow the necessary wiring information as provided in the wiring diagram or fails to follow any and all applicable codes pertaining to the installation of this product.**

#### High Limit Control

Each heater is equipped with a high limit control switch as a safety device. If an abnormal heating condition should occur, the heater will automatically shut off. The high limit switch will need to be reset manually before the heater will operate. To reset the high limit, locate the reset button (bottom front on wall models, behind the junction box at the back bottom on the floor models) and push upward until the contactor engages. If the reset button continues to trip, contact a qualified service person. Be sure that a GFI has not been installed on the sauna heater and sauna control circuits.

## Steamist Sauna - General Information

### Electrical Outlets

Electrical outlets are not recommended in a sauna room. If speakers are installed in a sauna, they should not be installed higher than 3 feet from the floor and should be located away from the sauna heater.

### Room Lights

Room lights should be vapor proof, wall mounted, with a rough in box mounted flush with the inside paneling. It should be mounted 78 inches above the finished floor and not placed directly over the sauna heater or the upper benches. Light bulb should not exceed 75 watts.

### Heater Fence

A heater guard rail is necessary to protect the sauna bathers from the hot surfaces of the sauna heater. The guard rail should be attached to the wall and should not be placed higher than the top of the heater below the rock line. See Figures 2-4 on page 3 for required guard rail clearances.

### Room Construction - General Information

- A. **Framing** - 2" x 4" kiln dried, Douglas Fir, 16" on center.
- B. **Ceiling height** - No higher than 7 feet.
- C. **Insulation** - R11 fiberglass with a foil vapor barrier.
- D. **Drywall** - Refer to local codes.
- E. **Wall Tongue and Groove Paneling** - Use kiln dried, vertical grain, clear T&G soft wood. Western Red Cedar, Redwood and Spruce are most common.
- F. **Benches** - Use wood species matching the wall materials. Be sure to use vertical grain material. 1" x 4" or 2" x 2" tops with 2" x 4" rails and spreaders.
- G. **Heater Guard Rail** - Use matching soft wood of 2" x 2" or 2" x 4" material.
- H. **Door** - Must open out and should not have a lock. 2'0" x 6'8" with fir rails and sealed tempered glass.
- I. **Flooring** - Concrete, ceramic tile or heavy duty vinyl with removable decking in walk area.
- J. **Ventilation** - Provide low ventilation, 4" above the floor near the heater and upper vent on opposite wall. 6" from the ceiling. See page 3 for specifications.
- K. **Light** - Should be wall mounted, vapor proof. 6" from the ceiling.
- L. **Accessories** - Bucket, Ladle, Thermometer, Hygrometer, Head and Back Rest, sand timer.
- M. **Warning Signs** - Warning signs are provided with the sauna heater. The metal "CAUTION" sign should be fastened to the wall, close to the heater, in a visible place. The metal "WARNING" sign should be placed outside or near the sauna door.

### WARNINGS!

**Do not smoke, use alcohol, or exercise in the sauna.**

**Do not exceed 30 minutes in the sauna at one time as excessive exposure can be harmful to your health.**

**Persons in poor health should consult a physician prior to using the sauna.**

**Do not place any combustible material on or over the sauna heater. At no time should towels, bathing suits, buckets, or ladles or any other flammable material be placed on or over the heater.**

**Use only clean tap water on the sauna stones. Do not use any chemically treated water (such as spa or pool water) on the heater at any time. Use of chemically treated water can result in rapid oxidation of the heater components, voiding warranty.**

## Maintenance Instructions

- 1) Use only clean water on the sauna stones. **Do not** use any chemically treated water (such as spa or pool water) on the heater as it will cause rapid oxidation of the internal heater components.
- 2) Clean water should always be used in sauna buckets and water should be dumped out after every use. Scour buckets and ladles occasionally when film collects from usage. Use plastic bucket liner in bucket to prevent leakage.
- 3) Scrub benches with a soft brush, using soap and water or a mild disinfectant when needed. Typical maintenance in a commercial application is about once a week. Each sauna bather should sit or lie on a towel when taking a sauna, to aid in prolonging the life of the benches.
- 4) Remove Super Dek or duckboard flooring and wash with disinfectant. On wooden duckboards, test disinfectant on a small area to ensure that there is no chemical reaction that may discolor the wood. Hose off Super Dek or duckboard and replace in sauna.
- 5) To maintain appearance of the sauna heater, remove water stains by wiping with a damp cloth occasionally.
- 6) Steamist sauna heaters require no special maintenance when properly installed by a qualified electrical contractor. After about 1 year of use, inspect the stones to determine if they need replacement. Rocks may crack or crumble over time.
- 7) Steamist strongly recommends that the sauna floor is made of a material that is easily cleaned. Ceramic tile, concrete, marble, sheet vinyl, etc. are all suitable for use in a sauna. When the sauna floor is made of a non-porous material, it is easy to keep clean, sanitary and odor free. Carpeting is not recommended for use in a sauna.
- 8) A floor drain should be provided in a commercial application for sanitary cleaning and maintenance.
- 9) To remove perspiration stains from the walls and benches, the wood may be lightly sanded with fine sand paper to restore its appearance. We do not recommend that stains or sealers be used in the sauna, as they may produce toxic vapors.
- 10) The sauna room will heat faster if the high vent is kept in the closed position during the initial heat up period. The low vent may always be kept in the open position.
- 11) Required warning signs should always be posted according to the instructions.

Sauna Heater Parts List for Models: SMS-45, SMS-60, SMS-60R, SMS-80, SMS-80R, and SMS-80R-3

1. Wall Bracket
2. Tapping Screw
3. Sheet Screw
4. Casing
5. Elements
6. Slot Head Screw
7. Bottom Grill
8. Stone Compartment assembled (frame)
9. Electrical Casing, assembled
10. Plate
11. Screw
12. Screw
13. Rating Plate
14. Slot Head Screw
15. Slot head Screw
16. Hexagon Nut
17. Thermostat
18. Timer
19. Terminal Strip (USA)
20. Strip Fixing Screw (USA)
21. Base Plate
22. Screw
23. Bracket
24. Slot Head Screw
25. Slot Head Screw
26. Over Heating Limiter/Switch
27. Contactor (USA)
28. Protective Grill

Steamist Limited Warranty

**Residential Applications**

Steamist will replace any defective components in their sauna heaters, contactors, controls, used in residential applications, for the period of 5 years from the original purchase date. This limited warranty covers faults in manufacture and material only, and includes the exchange of new parts supplied by the manufacturer or the manufacturer's agent, after the defective parts are returned to Steamist. The replacement of parts under warranty does not extend the warranty period beyond the original five year period. In addition, Steamist will perform the required labor to repair or install the component, at the factory, for the period of one year from the original purchase date. All costs for removal and reinstallation of the component(s) on the job site, shipment to the factory and shipment back to the job site will be the responsibility of the owner of the equipment.

**Commercial Applications**

Steamist will replace any defective components in their sauna heaters, contactors, controls used in commercial applications, for the period of one year from the original purchase date.

This limited warranty covers faults in manufacture and material only, and includes the exchange of new parts supplied by the manufacturer or the manufacturer's agent, after the defective parts are returned to Steamist. The replacement of parts under warranty does not extend the warranty period beyond the original one year period. In addition, Steamist will perform the required labor to repair or install the component, at

the factory, for the period of one year from the original, purchase date. All costs for removal and reinstallation of the component(s) on the job site, shipment to the factory and shipping back to the job site will be the responsibility of the owner of the equipment. This limited warranty does not cover damage to the heater caused by normal wear and tear, damages caused by improper installation, improper use and care or alterations made to the sauna product.

This limited warranty is void if the heater is used improperly. Chemically treated water, such as spa or pool water should not be poured over the sauna stones. The sauna room must be heated for a minimum of 30 minutes prior to the application of water to the sauna stones. The limited warranty is void if a shower or faucet has been installed in the sauna. Damages resulting from the misuse of the heater will not be covered in the warranty.

This limited warranty is void if the installation and wiring is not performed by a certified electrician or authorized and qualified service representative.

The limited warranty applies only to the original purchaser and installation of the product.

A return authorization number assigned by Steamist is required prior to returning any product for repair. Components returned without a return authorization number may not be repaired or replaced.