

AMEREC "MISTY" SERIES HEATERS MODELS 6.0M, 6.0A, 8.0M & 8.0A

Read all instructions carefully before installation. Please leave all instructions with the owner.

WARNING

Prolonged exposure to elevated temperatures is capable of inducing hyperthermia. Hyperthermia occurs when the internal temperature of the body reaches several degrees above the normal body temperature of 98.6°F. The symptoms of hyperthermia include an increase in the normal temperature of the body, dizziness, lethargy, drowsiness, and fainting. The effects of the hyperthermia include failure to perceive heat, failure to recognize the need to exit the room, unawareness of impending hazard, fetal damage in pregnant women, physical inability to exit the room and unconsciousness.

WARNING

The use of alcohol, drugs, or medication is capable of greatly increasing the risk of fatal hyperthermia.

SECTION 1: GENERAL INFORMATION

These heater units are UL approved for permanent installation and electrical connections. Built with splashproof construction, the conducting parts are protected against water. All wiring must be performed by a licensed electrician in accordance with the National Electrical Code and local codes.

Misty heaters come in two versions, automatic water fill and manual water fill. The heater units are wall mounted, 16"W x 15"D x 25"H, with wall mounted controls.

WARNING

Do not take a sauna if using alcohol, drugs or medications.

Pregnant women or persons with poor health should consult their physician before using any sauna.

Caution fire hazard: Do not use the sauna room for drying clothes, bathing suits, etc. Do not hang towels above heater or place any object other than the rocks supplied on the heater. If any darkening of the wall around the heater is noticed discontinue sauna use immediately.

Inspect sauna regularly for required maintenance to heater, control and benches. Replace wood surfaces which show any signs of deterioration.

The heater gets extremely hot during operation and should not be touched or burns may result.

Minors should be adequately supervised whenever near a hot or warming sauna.

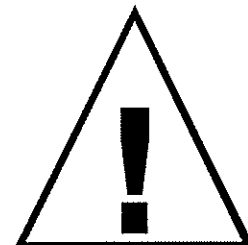




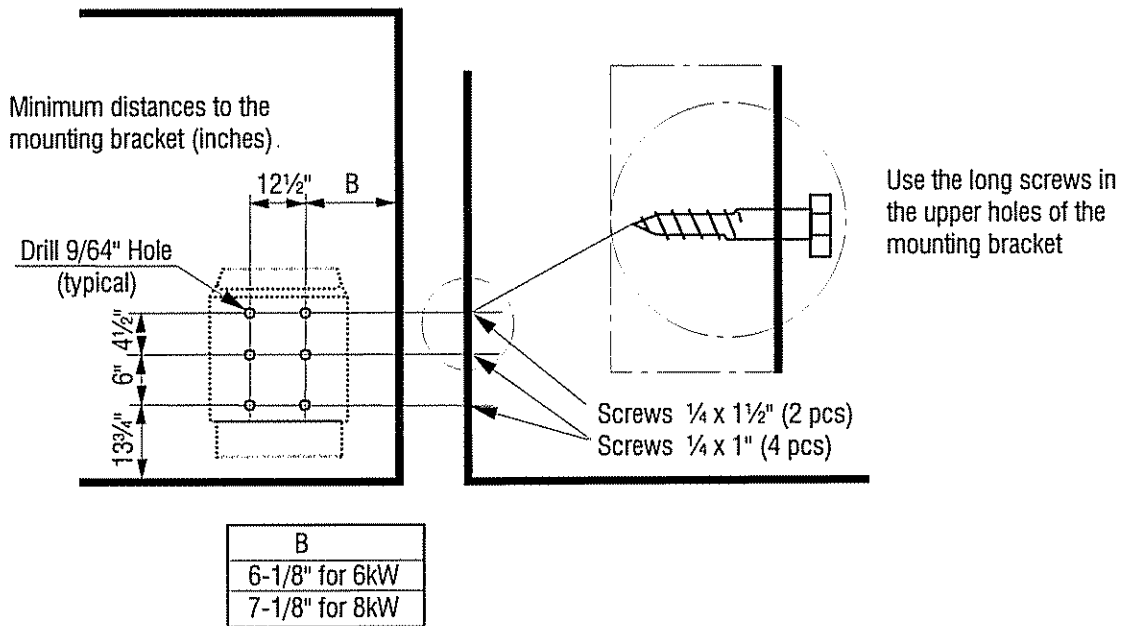
DIAGRAM 1

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DIAGRAM 2

Minimum Distance for Mounting Bracket

Figure 4



Recheck your distances from the heater to combustible materials to ensure you have proper clearance.

**SECTION 1: GENERAL INFORMATION, Continued****IMPORTANT INSTALLATION NOTES:**

Grounding is required.

All wiring must be performed by a licensed electrician in accordance with the National Electrical Code and local regulations.

Install the heater and controls to permit access for servicing.

No receptacle or electrical outlet shall be installed inside the heated room.

The enclosed warning plate "Caution: Reduce the risk of fire..." must be mounted on the interior wall above the heater.

The enclosed warning plate "Warning: Reduce the risk of overheating ..." must be mounted on the door outside the sauna room at about eye level.

No permanent locking or latch system can be used on the sauna door. Acceptable door fittings are: Magnetic catches, friction catches, spring loaded or gravity loaded closures. The door must open outwards.

No shower can be installed in the sauna room.

Do not operate the heater without rocks in the container.

Mount the heater according to the installation instructions.

SECTION 2: MOUNTING THE HEATER

Using the template provided, drill 6 screw holes using a 9/64" drill bit. Find two 1/4" x 1-1/2", hex head, lag screws in the hardware pack. These screws are used as the upper screws. Turn both upper screws in until the head is approximately 1/8" from the wall surface. Be sure the screws are fastened through the sauna room soft wood lining into a 2 x 4 framing member or back board to hold the heater weight. Total weight of the heater and rocks will exceed 100 pounds, so it is very important to secure the heater to solid framing or backing. See diagram 2.

Hang the heater on the upper screws. Find four 1/4" x 1", hex head, lag screws in the hardware pack. These screws are the lower screws. Install and tighten the lower screws to tighten the heater in position.

Recheck your distances from the heater to combustible materials to ensure you have proper clearance. See diagram 3.

WARNING

Fire sprinkler systems used inside any sauna room should be properly rated for sauna room temperatures.

Do not pour chlorinated pool or spa water on heater. Excessive water use on heater may cause damage and void warranty.

Electric Shock Hazard - High voltage exists within this equipment. There are no user serviceable parts in this equipment. All installation and service to this equipment should be performed by qualified licensed personnel in accordance with local and national codes.

Do not construct sauna room so as to restrict air flow through the bottom of the heater.

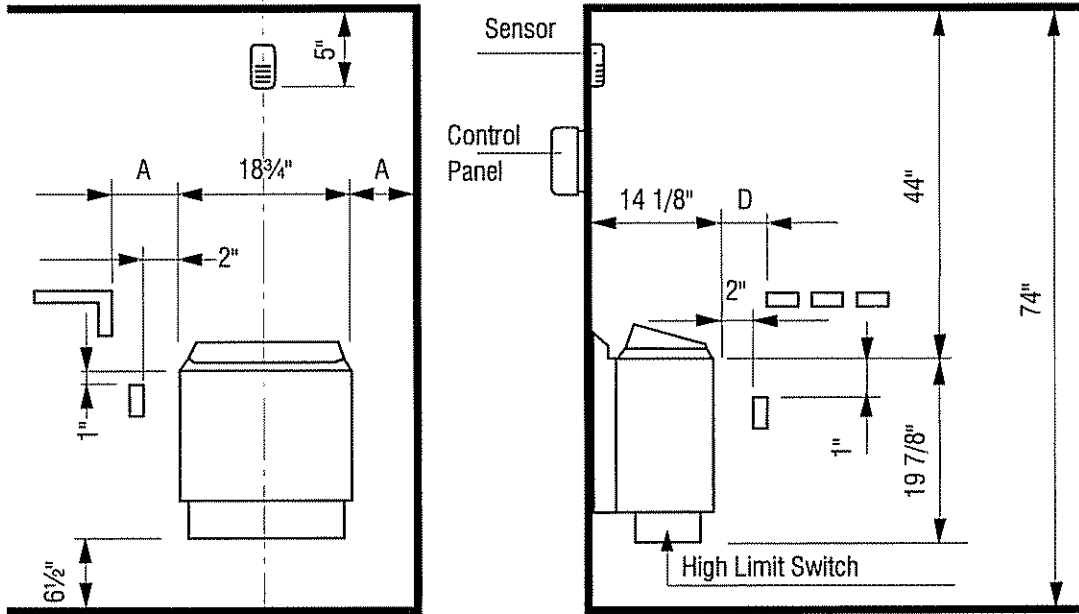
Rock preheat required. Although the rocks are specially selected for use with this sauna heater, concealed moisture could cause the rocks to crack and project fragments causing potential injury when the rocks are heated. The rocks must be preheated on the sauna heater for two hours at maximum temperature with no one in the sauna room.

Packing the rocks too tightly may cause the heater high limit switch to trip.



DIAGRAM 3

Minimum Distance to Combustible Material



Heater Models	Minimum Distance (inches)	
	A	D
Misty 6.0	4	5
Misty 8.0	5	6

! OBSERVING MINIMUM DISTANCES IS REQUIRED TO AVOID FIRE HAZARD

DIAGRAM 4

HEATER SCREEN (GUARD RAIL)

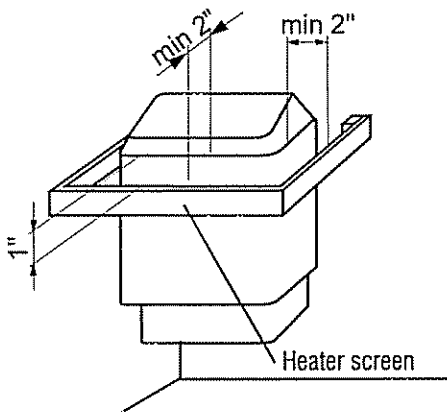
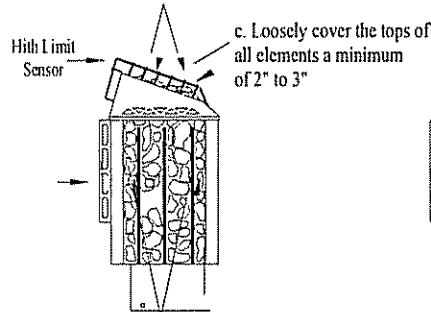


DIAGRAM 4.5

a. Loosely place rocks between the elements so air flow is not restricted.

Incorrect Placement of Rocks



b. Rocks must be placed between the elements and the wall of the rock compartment.

Rocks between the front element and the outer wall will reduce cycling of the heater.

1. Put smaller rocks in first around the outer perimeter of the heating chamber.
2. Completely fill all four sections (front, 2 center sections between elements, and back).
3. In the outer sections, use smaller rocks placed more tightly (see note b).
4. Place rocks loosely in the center 2 sections (see note a).
5. Be sure rocks completely cover the elements (see note c).
6. Loosely cover the tops of all elements a minimum of 2" to 3".



SECTION 3: HEATER SCREEN (GUARD RAIL)

Provide and install a wooden guard rail to reduce the risk of the sauna bather accidentally touching the heater.

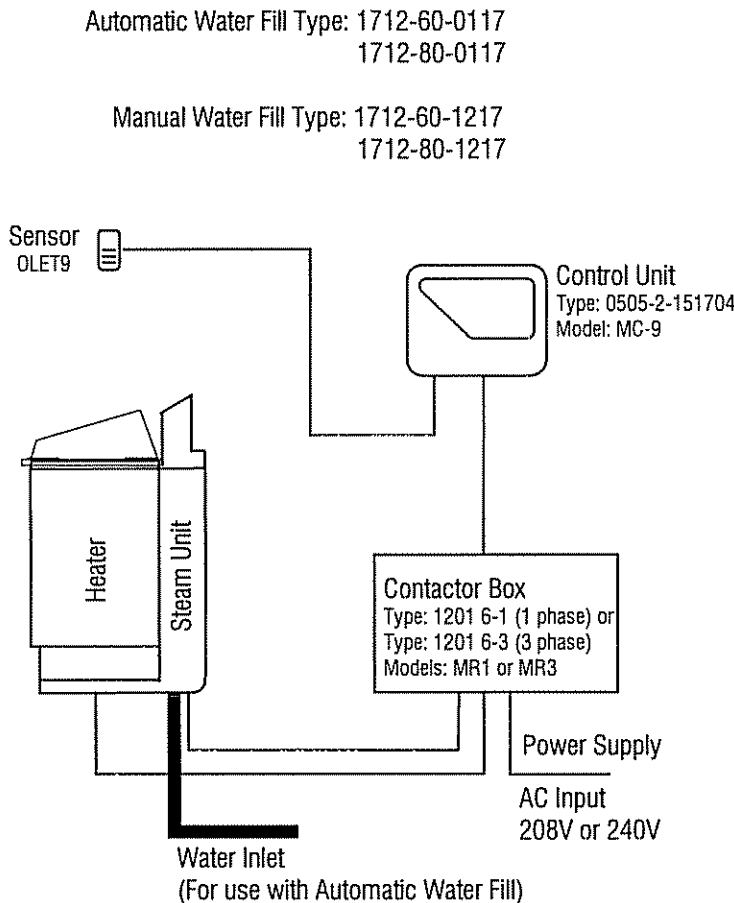
Install the heater guard at the same height as the top of the heater. Maintain an 1-1/2" minimum clearance between the guard rail and the heater. See diagram 4.

SECTION 4: ELECTRICAL HOOK-UP

Electrical installation must be made by a licensed electrician in accordance with the National Electrical Code and local regulations. Install the control unit and the contactor box in a dry place outside of the heated sauna/steam room.

Below is a block diagram showing the locations and interconnections between the major components of the system.

DIAGRAM 5



Wire size and number of conductors for the interconnections between the major components of the system is on table 1. Please refer to the table when wiring the system.

WARNING

Do not locate benches over heater. Minimum clearance of ceiling above heater 45".

Minimum clearance from heater to wooden surfaces (benches, side walls, heater fence etc.) 1½ inches. Mounting brackets supplied. Provides proper clearance from wall behind heater.

Use only copper wire of the size and type indicated in the Heater Specification Chart and the temperature rating indicated on the heater junction box.

All heaters and controls must be grounded per NEC to prevent electrical shock in case of unit failure.

Electrical outlets or receptacle must not be installed in a sauna room.

A guardrail or fence is required around the heater to prevent burns from accidental contact.



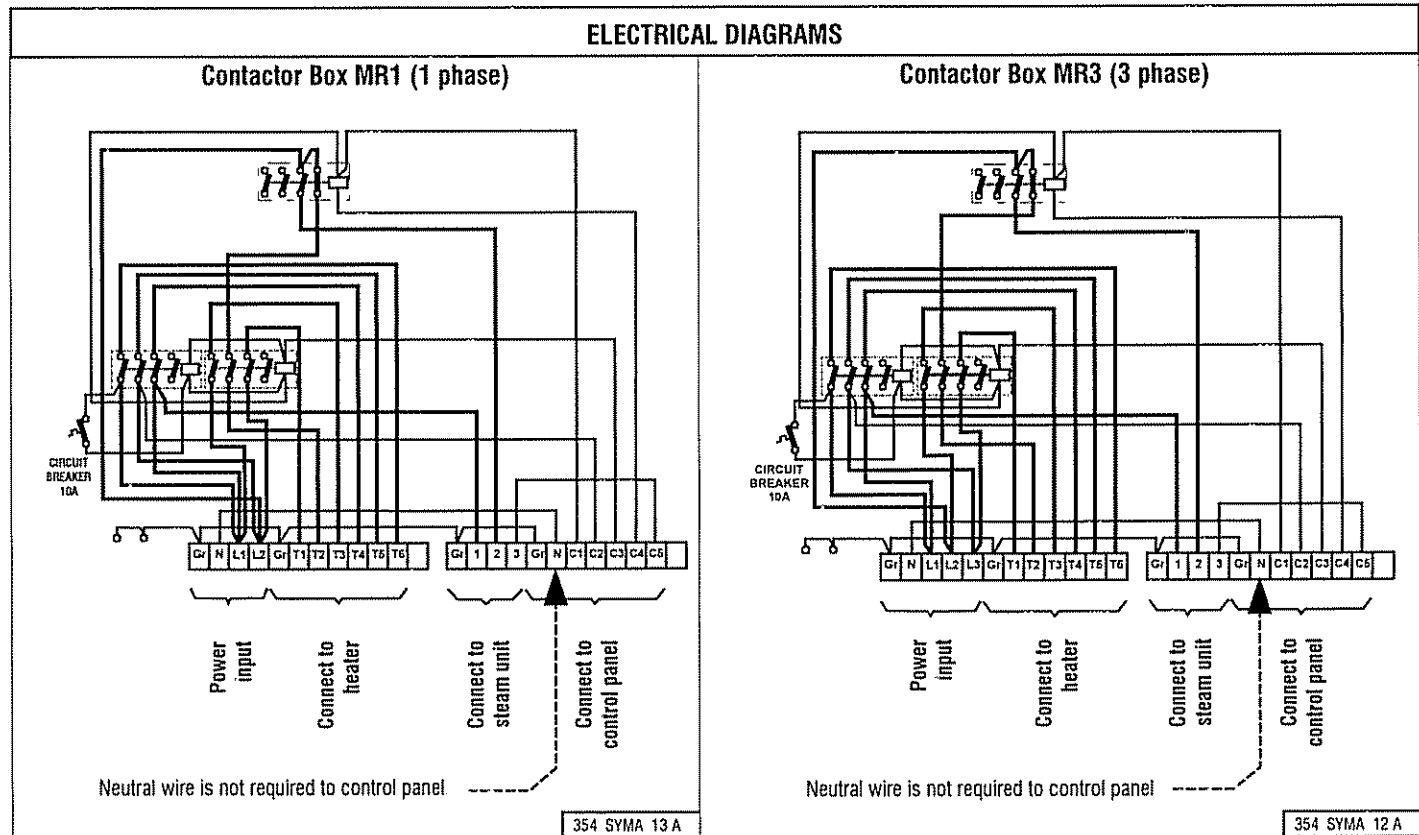
SECTION 4: ELECTRICAL HOOK-UP, Continued

To determine correct wire size, refer to table 1 below. Use wires suitable for a minimum of 90°C (194°F) to the heater. The heater must be grounded.

HEATER MODEL / Product Number	KW	MINIMUM ROOM			MAXIMUM ROOM		PHASE	VAC	AMPS	WIRE SIZE *		
		Floor Area	Ceiling Height	Volume Cu.Ft.	Ceiling Height	Volume Cu.Ft.				Power Supply to Contactor	Contactor to Heater	Contactor to Steam Unit
MISTY 6.0 (M, A) 1712-60-1217 1712-60-0117	6	28 sq. ft.	74"	175	96"	310	1	208	28.8	2 #8 AWG+N+GR	6 # 8 AWG+GR	3 # 8 AWG+GR
							1	240	25	2 #10 AWG+N+GR	6 # 10 AWG+GR	3 # 10 AWG+GR
							3	208	16.7	3 #10 AWG+N+GR	6 # 10 AWG+GR	3 # 10 AWG+GR
							3	240	14.4	3 #12 AWG+N+GR	6 # 12 AWG+GR	3 # 12 AWG+GR
MISTY 8.0 (M, A) 1712-80-1217 1712-80-0117	8	40 sq. ft.	74"	250	96"	425	1	208	38.5	2 #8 AWG+N+GR	6 # 8 AWG+GR	3 # 8 AWG+GR
							1	240	33.3	2 #8 AWG+N+GR	6 # 8 AWG+GR	3 # 8 AWG+GR
							3	208	22.2	3 #10 AWG+N+GR	6 # 10 AWG+GR	3 # 10 AWG+GR
							3	240	19.2	3 #10 AWG+N+GR	6 # 10 AWG+GR	3 # 10 AWG+GR

* Contactor to Control Wiring, 5 # 14 AWG+GR
 * Control to Sensor Wiring, 2 # 18 AWG (Supplied)
 (M=Manual Fill)
 (A=Automatic Fill)

Below and on the following page are wiring diagrams of the major components. Use the table above with the wiring diagrams.



SECTION 4: ELECTRICAL HOOK-UP, Continued

ROOM LIGHT AND FAN

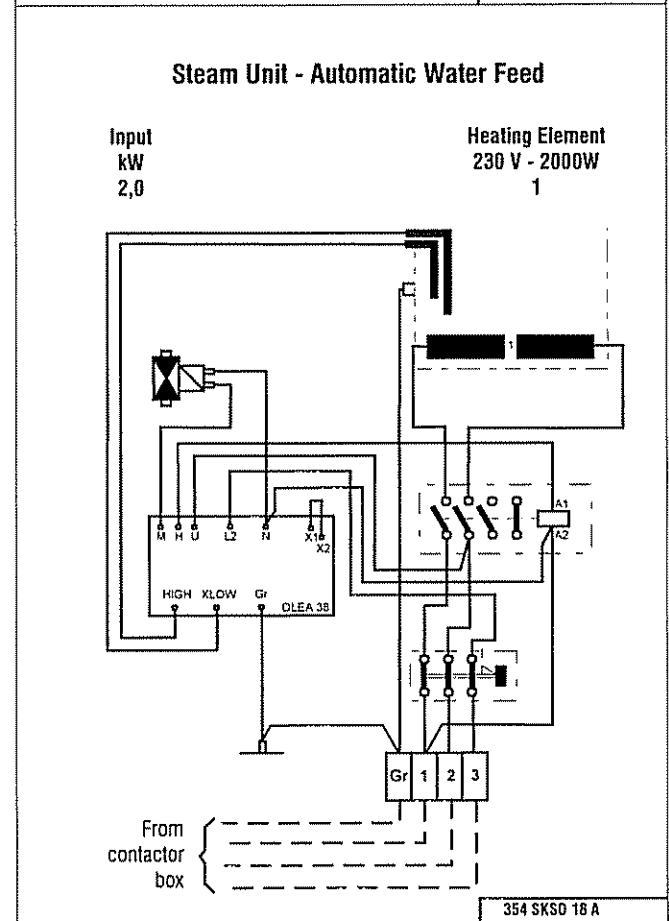
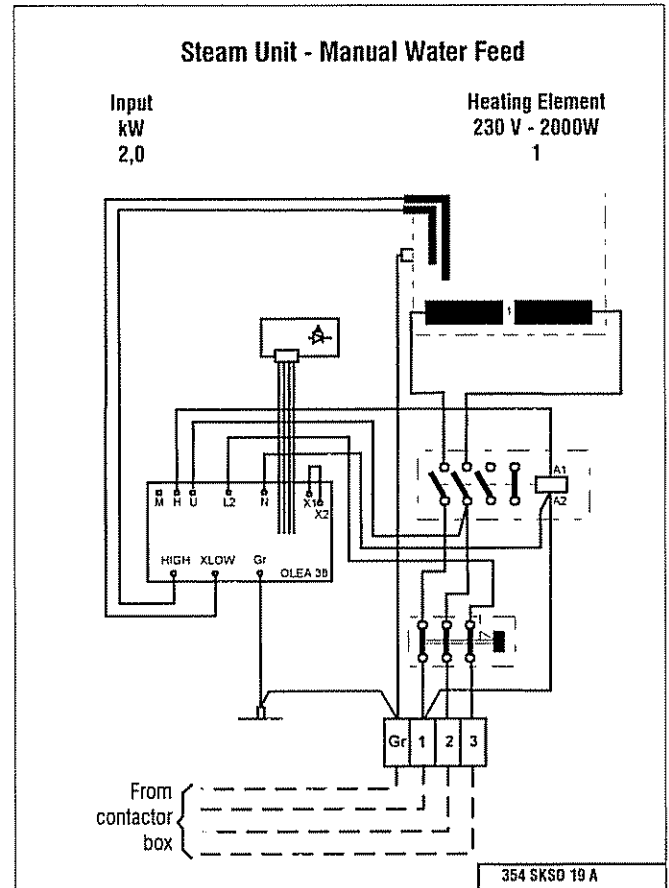
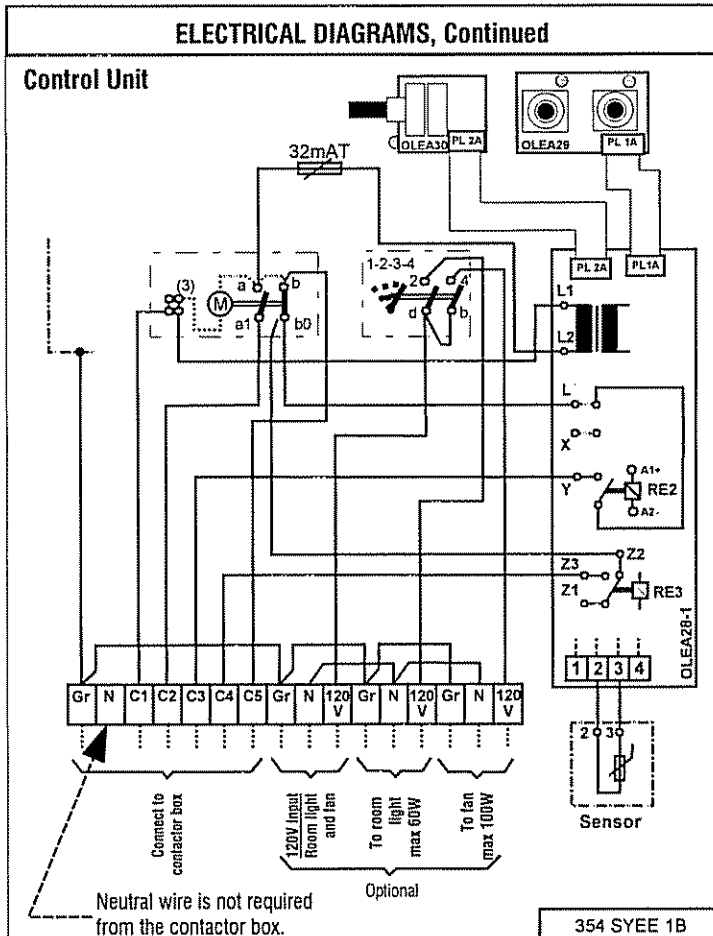
Provisions for a room light and fan are part of the control unit. To use the room light and/or fan features, a separate 120 volt, 15 amp circuit must be run to the control unit.

CONTROL UNIT

Wire the control unit to the contactor box. Match the terminal numbers.

STEAM UNIT

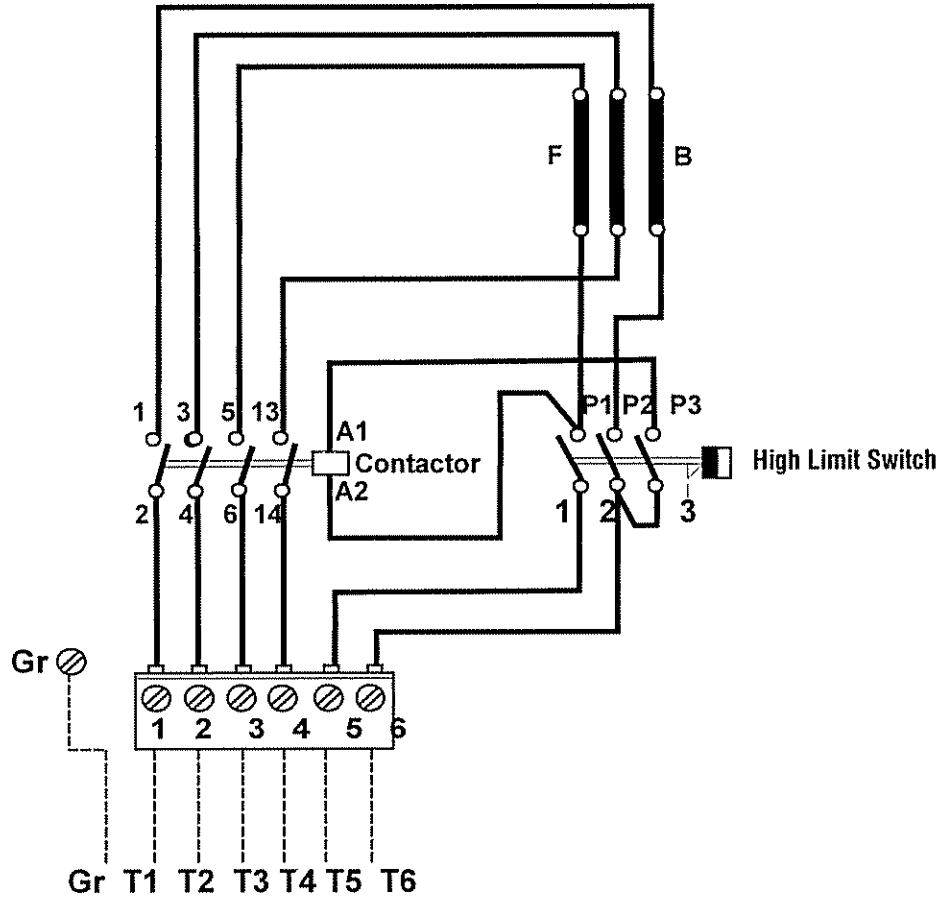
Connect the steam unit to the contactor box. Match the terminal numbers.





ELECTRICAL DIAGRAMS, Continued

WIRING DIAGRAM FOR THE HEATER



Heater Model	Input kW	Heating Elements	
		208V 2000W	240V 2670W
Misty 6.0	6,0	1,2,3	
Misty 8.0	8,0		1,2,3

354 SKSO 10/1 A

Heater wiring is connected to the contactor box (see contactor box wiring diagram on page 6). Match terminal numbers.



SECTION 5: WATER SUPPLY

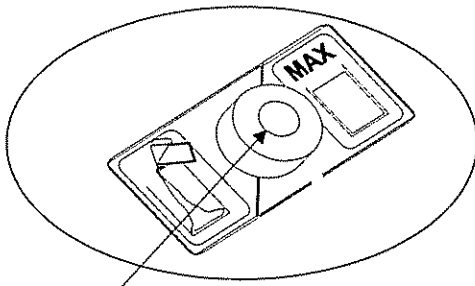
All plumbing must be done by a licensed plumber in accordance with national and local codes.

MANUAL WATER FILL

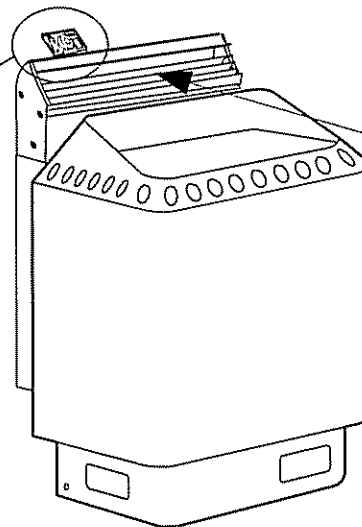
To operate the steam unit, simply pour water into the top of the generator. An indicator light on the top of generator lets you know if the the tank is full or if more water is needed. When the indicator is green, the tank is full; when the indicator is red, more water is needed. If the water level is too low, the generator will not operate.

WARNING

Hard water will shorten the life of the steam generator. Have your water tested by a water treatment specialist prior to installing the steam generator and follow their recommendations. Problems caused by hard water or impurities are not covered by warranty.



Indicator - Shows red when tank needs water, green when tank is full.

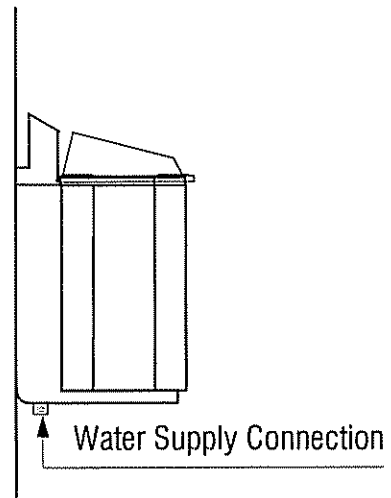


Pour water into the top of the steamy unit.

AUTOMATIC WATER FILL

Install a 1/2" water line to the steam unit. Terminate the water line with a 1/2" NPT male valve . The valve must be within 3 feet of the steam unit. Final connection to the steam unit is done with the short flexible hose provided.

Be sure the valve is turned on before starting the steam unit.



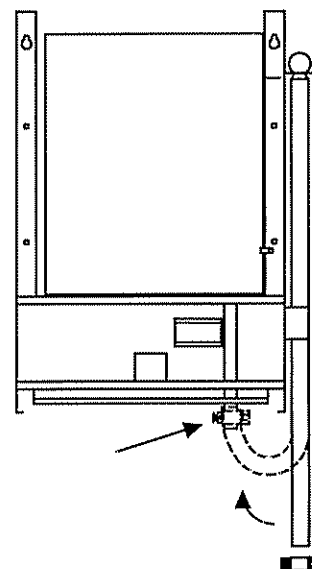
SECTION 5: WATER SUPPLY, Continued

Both manual water fill and automatic water fill tanks have a drain hose. Drawings on this page show the steam unit without the sauna heater attached.

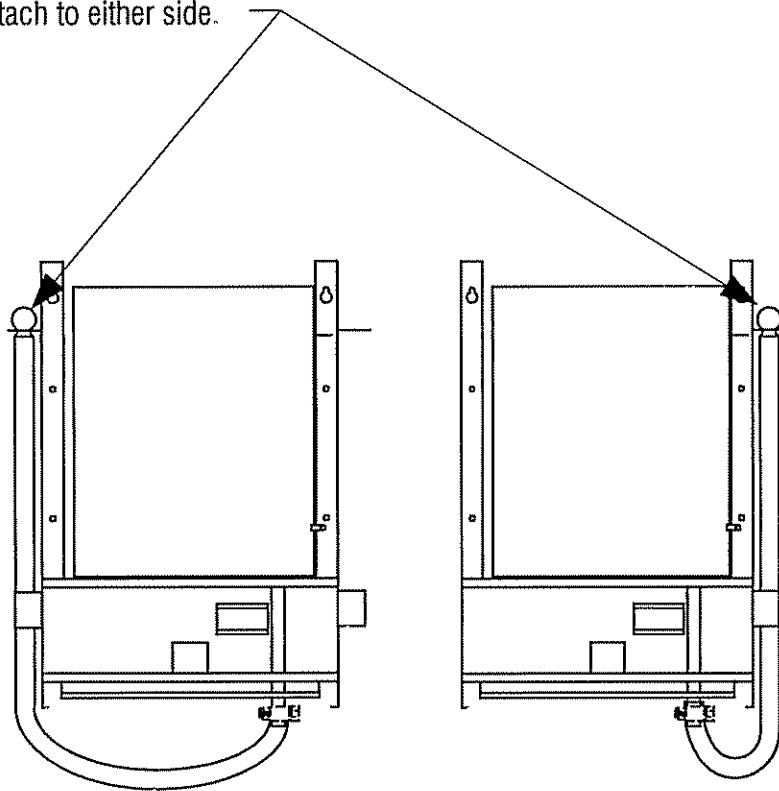
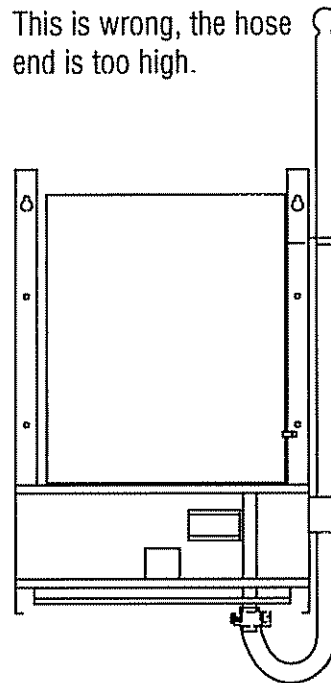
For both manual and automatic fill units, the drain hose must be attached to the short pipe stub on the bottom of the water tank. If the hose is not connected, water will run out of the tank during filling.

After installing the hose, place it in the holding brackets on the side of the water tank.

Two brackets are located on the water tank, one on each side. The round fitting on the end of the drain hose fits into either bracket so the drain hose can attach to either side.



This is wrong, the hose end is too high.

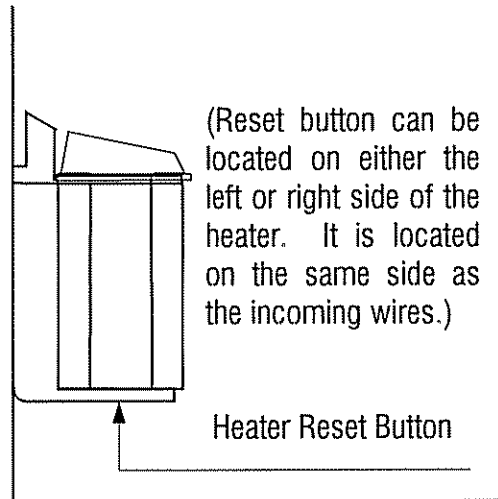


SECTION 6: HIGH LIMIT CONTROLS

HEATER

The sauna heater has a built-in high limit control which automatically shuts down the heater if the temperature in the sauna rises to an abnormally high level.

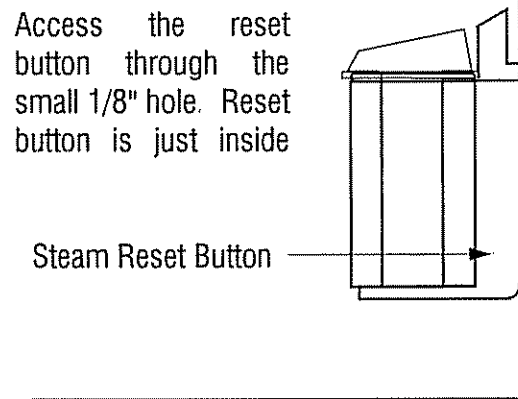
To restart the heater, let the heater cool and push the reset button. The reset button is located underneath the heater close to where the wires enter. If the high limit continues to shut down the heater, contact a service representative.



STEAM UNIT

The steam unit has a built-in high limit control which automatically shuts down the steam output if the level probes fail.

To restart the steam, let the steam unit cool and push the reset button. The reset button is located on the right side of the steam unit 3" above the bottom. If the steam unit fails to restart, or high limit continues to shut down the heater, contact a service representative.



SECTION 7: PLACING OF ROCKS (SEE DIAGRAM 4.5 ON PAGE 4)

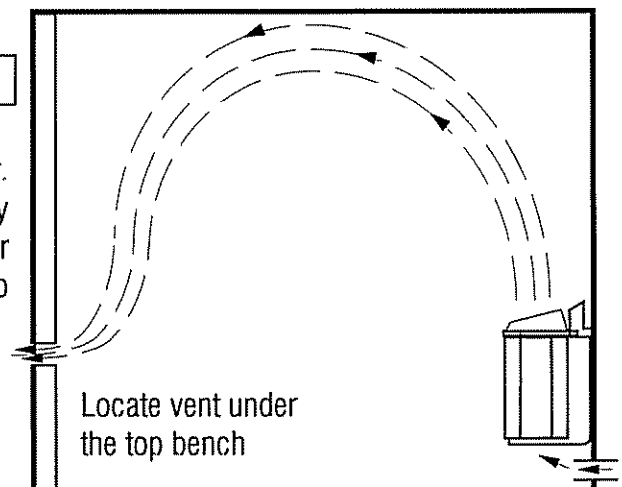
Rocks provided with the heater have been chosen to provide the best heater performance. Use of any other type of rock will void the warranty. Never operate the heater without the rocks in place.

Rinse the rocks with water before placing in the heater. Place rocks between and around the heating elements, with the largest rocks on the bottom. To ensure good air flow, place the rocks in loosely. When the rocks are in place, replace the rock guard and fasten it in place with the screws provided.

SECTION 8: VENTILATION

In a sauna the air should be changed about 4 to 6 times an hour. To achieve this, cut an air inlet opening in the sauna wall directly below the heater and an air outlet below the upper bench. The air outlet must be as far as possible from the heater and about two feet higher than the fresh air inlet.

Cut inlet and outlet openings about 4" x 4".



SECTION 9: OPERATION

CONTROL UNIT (MC-9) FEATURES

1. Timer with up to 9 hour delay (9+1 timer).
2. Three heating modes.
3. Light and vent fan switches.
4. Two separate temperature selector dials, one for the soft mode, and one for the sauna mode.

5. One selector dial for the sauna, soft sauna, and steamy sauna functions .
6. Colored LED's for all functions.
7. Steamy sauna range is limited to 149°F and will not generate steam if the temperature is higher.
8. Can be left in the soft sauna position during heating, this enables pre heating without steam.

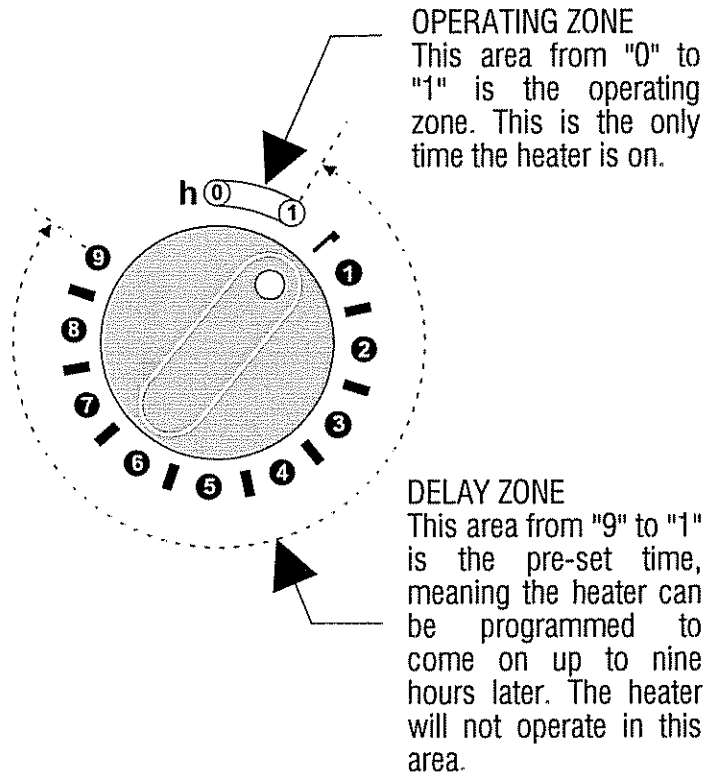
OPERATION

If you want the heater to begin heating immediately, turn the dial clockwise past the first section labeled "off to on", then turn the dial back (counterclockwise) until you feel it "click" into the one hour operational zone.

The heater has a "9 plus 1" timer, which means you can pre-program the heater to come on up to 9 hours later.

If you set the timer dial in the "ON to 9" zone, the heater will not turn on until the time elapsed equals the number of hours you set.

The temperature can be adjusted by turning the thermostat knob. To raise the temperature, turn the knob clockwise; to lower the temperature, turn the knob counter-clockwise.



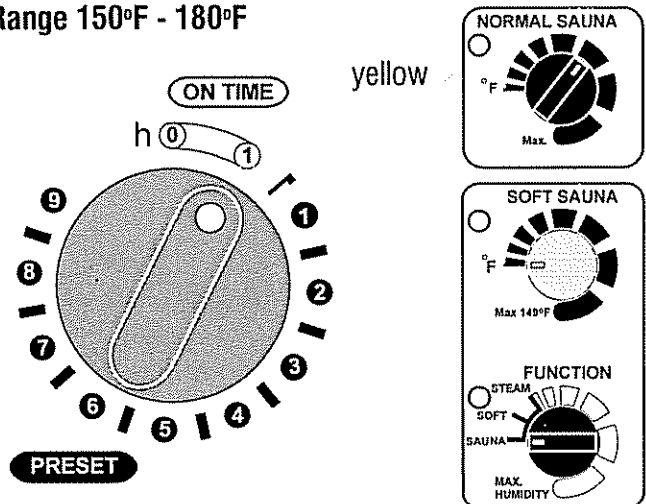
OPERATING MODES

NORMAL SAUNA Turn the timer to the operating zone (timer operating instructions are on the previous page) and the "FUNCTION" dial to "SAUNA". The indicator next to the "NORMAL SAUNA" thermostat will glow yellow.

To increase temperature, turn the "NORMAL SAUNA" thermostat knob clockwise; to decrease temperature, turn "NORMAL SAUNA" thermostat knob counter-clockwise.

NORMAL SAUNA

Range 150°F - 180°F



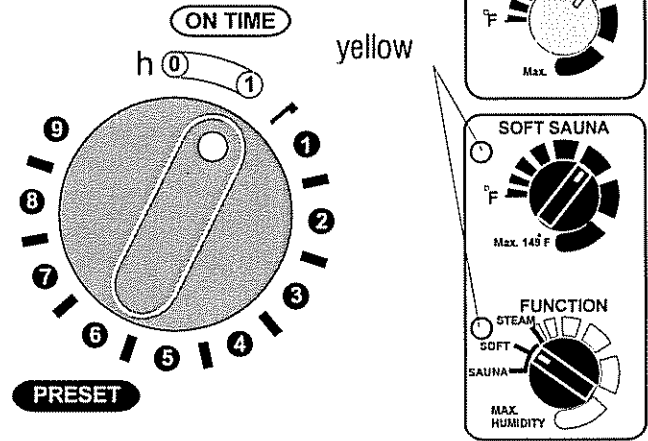
SECTION 9: OPERATION, Continued

OPERATING MODES, Continued

SOFT SAUNA Turn the timer to the operating zone (timer operating instructions are on the previous page) and the "FUNCTION" dial to "SOFT". The "FUNCTION" indicator and THE "SOFT SAUNA" indicator will glow yellow. No steam is produced in this mode. Use this setting for pre-heating the sauna room. Before entering the sauna room, turn the "FUNCTION" dial the "STEAM" range.

SOFT SAUNA

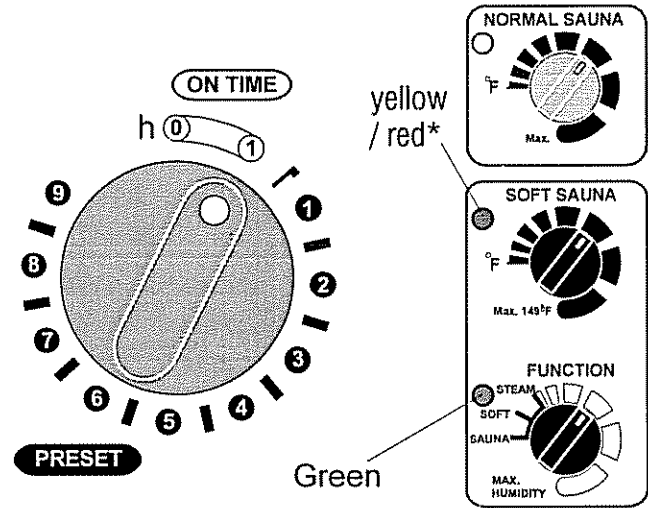
Dry, range 77°F - 149°F



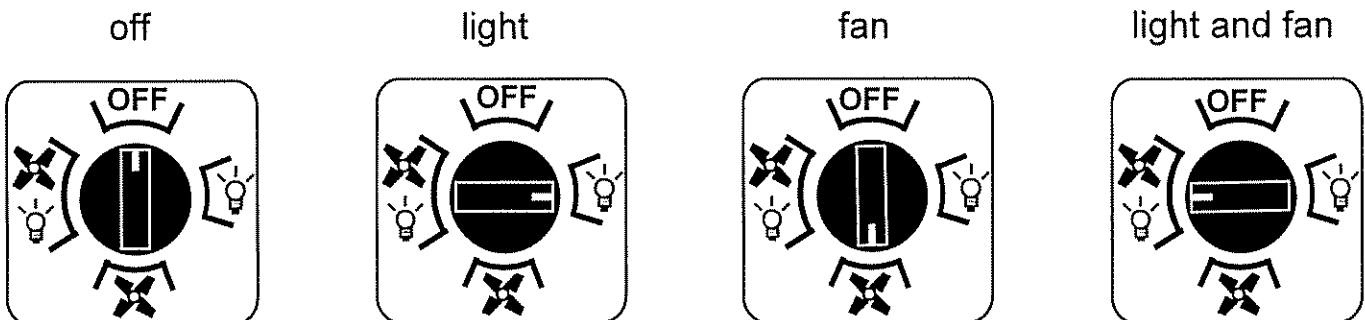
STEAM SAUNA Turn the timer to the operating zone (timer operating instructions are on the previous page) and the "FUNCTION" dial to "STEAM" or to the "MAX. HUMIDITY" zone. In this mode the sauna heater and steamy operate simultaneously. Sauna temperature is controlled by the "SOFT SAUNA" thermostat and humidity is controlled by the "FUNCTION" knob. The temperature is limited to 149°F. If the sauna temperature exceeds 149°F, no steam is produced and the "SOFT SAUNA" indicator turns red. When the temperature drops below 149°F steam production starts and the indicator turns yellow.

STEAM SAUNA

Humid, range 77°F - 149°F



The Steamy control has a 4 position light and fan selector switch for optional use:



SECTION 10: WARNING PLACARDS

Two metal placards are included in the Installation Instruction Envelope packaged with every Amerec Sauna Heater. The CAUTION placard must be attached to the interior wall of the sauna room directly above the heater where it is visible to the bather. The WARNING placard must be attached to the door of the sauna room.

SECTION 11: ROOM CONSTRUCTION

For safety and reliability, the following rules must be addressed.

- No permanent locking or latch system is to be used on the sauna door.
- Acceptable door fittings are: magnetic catches, friction catches, spring or gravity loaded closures. The door must always open outwards.
- No shower may be installed in a sauna room.
- No electrical receptacle shall be installed inside the sauna room.
- The enclosed WARNING: Reduce the risk of overheating ... warning plate must be mounted on or alongside the door outside the sauna room at about eye level.
- The enclosed CAUTION: Reduce the risk of fire ... caution plate must be mounted on the interior wall above the heater.
- The heater should not be operated without its container properly filled with rocks and the rock guard in place.
- If an intercom speaker is installed, it should be away from the heater and as close to the floor as possible.
- If a room light is installed, it should be a surface mounted bracket type. Wall mounted lights should be about 70" above the floor. Ceiling mounted lights should be of an approved type with a junction box that is remote to the fixture itself. Use only a fixture that uses A.F. or fixture type internal wiring. A 60 watt bulb should provide sufficient lighting.
- Fire sprinkler systems installed inside any sauna room should be properly rated for sauna room temperatures.
- Always mount the heater according to these installation instructions.

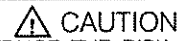
WARNING

The "CAUTION" and "WARNING" placards must be mounted in accordance with Section 10.



WARNING
REDUCE THE RISK OF OVERHEATING

- * Exit immediately if uncomfortable, dizzy, or sleepy. Staying too long in a sauna is capable of causing overheating.
- * Supervise children at all times.
- * Check with a doctor before use if pregnant, in poor health, or under medical care.
- * Breathing heated air in conjunction with consumption of alcohol, drugs, or medication is capable of causing unconsciousness.



CAUTION
REDUCE THE RISK OF FIRE

Do Not Place Combustible Material On The Heater At Any Time.

For safety purpose sauna door must open out and not lock.

Never use a wood stain, seal or preservative on the inside of your sauna room.

Light fixtures get very hot during operation. Locate light fixture where it will not be a burn hazard.

No shower can be installed in the sauna room.