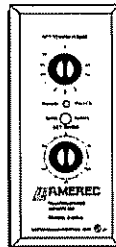
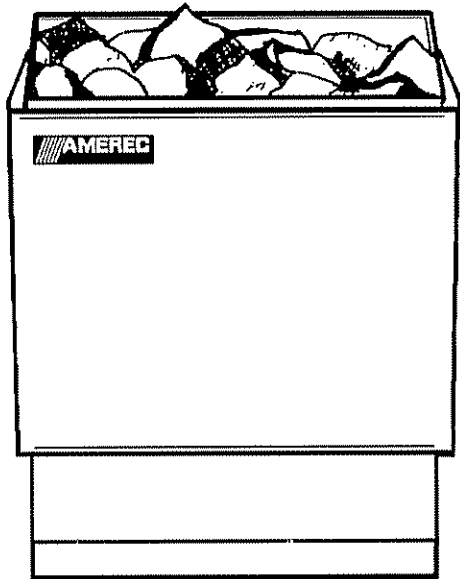




AMEREC

INSTALLATION AND SERVICE INSTRUCTIONS



AMEREC SAUNA HEATER FREE STANDING FLOOR MODELS F12, F15, F9-3, F12-3, F15-3

Read all instructions carefully before installation. Please leave all instructions and warranty with the owner. Please fill out and return your warranty certificate promptly.

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.

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, controls 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.

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.



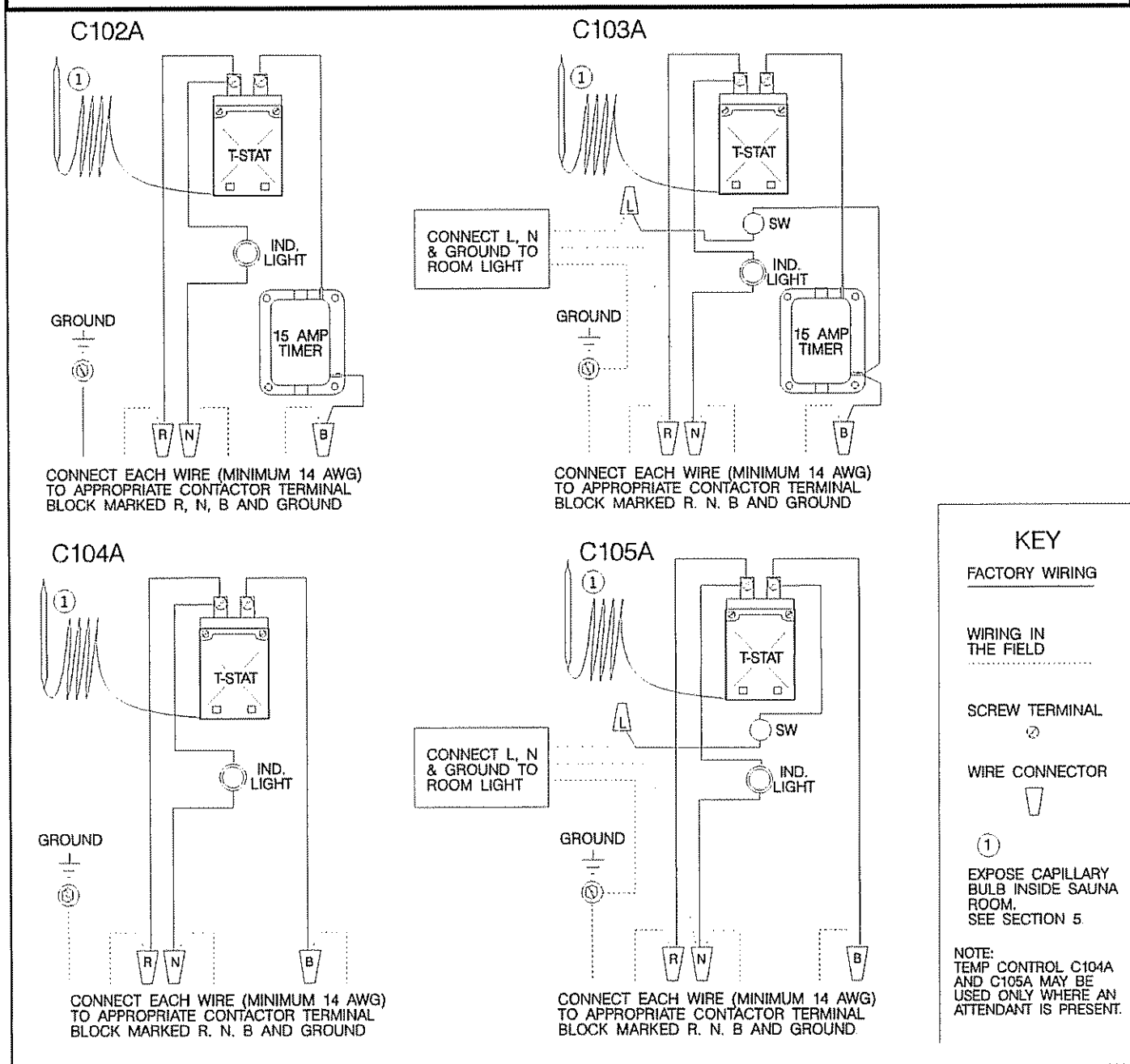
SECTION 1: GENERAL INFORMATION

AMEREC Sauna heaters are listed by Underwriters Laboratories. These heaters are for permanent installation and electrical connection. To determine the correct wire size, circuit protection and minimum spacing from wooden surfaces, refer to the Heater Specification Chart on the following page.

HEATER SPECIFICATION CHART

HEATER MODEL	VOLTAGE	PHASE	KW	AMPS	MINIMUM 90° C COPPER SUPPLY WIRE TO CONTACTOR ASSEMBLY A W G NO.	HEATER REQUIRES CONTACTOR ASSY. NO.	MINIMUM ROOM		MAXIMUM ROOM		HEATER	
							FLOOR AREA	CEILING HEIGHT	CEILING HEIGHT	VOLUME CU FT	MINIMUM FROM WOOD SURFACES	MIN. DIST FROM CEILING TO ROCK GRATE
F12	240	1	11.5	48.0	4-3 W/G	R12	47 sq ft	78"	96"	850	4"	46"
F15	240	1	15.6	65.0	4-3 W/G	R15	47 sq ft	78"	96"	1150	4"	46"
F9-3	208	3	8.6	24.0	8-4 W/G	R93	28 sq ft	78"	96"	525	4"	46"
F12-3	208	3	11.7	32.5	8-4 W/G	R153	47 sq ft	78"	96"	850	4"	46"
F15-3	208	3	15.0	41.7	6-4 W/G	R153	47 sq ft	78"	96"	1100	4"	46"

DIAGRAM 1



SECTION 2: SECURING HEATER TO THE FLOOR

On the base of the heater are angle brackets and attached to the brackets are 2½" screws for securing the heater to the sauna room floor. The heater should be located in the sauna room observing the minimum spacing from wooden

surfaces (walls or benches). The HEATER SPECIFICATION CHART shows the minimum ceiling height and the minimum floor area of the room in which the sauna heater may be used. Do not install benches over the top of heater.

! OBSERVING MINIMUM DISTANCES IS REQUIRED TO AVOID FIRE HAZARD

SECTION 3: SAUNA ROCKS

This heater must not be operated unless the rock compartment in the top of the heater is filled with the igneous rocks that are furnished with the heater. They should be put on the heater so that the air is free to travel around them. Do not pack too tightly.

During the first operation, the rocks should be heated for two hours at maximum temperature with no one in the sauna room. This will allow any concealed moisture to be evaporated. If not, the moisture could cause the rocks to crack and possibly project fragments.

SECTION 4: ELECTRICAL WIRING

All wiring must be accomplished by a licensed electrical contractor. Refer to the Heater Specification Chart to determine the wire size and circuit protection required. The complete sauna system consisting of heater, contactor assembly and temperature control should be

properly grounded as per NEC or as required by local codes. Grounding terminals are provided in the wiring compartments of each heater and also in the contactor assembly and temperature control. Complete the wiring according to the appropriate Diagram 1, 2, 3, 4 & 5.

SECTION 5: TEMPERATURE CONTROL

The temperature control rough-in box should be installed flush in the wall, 5 feet up from the floor and so the opening is to the outside of the sauna room wall. The control is completely prewired and coded to simplify the field wiring. The capillary tube of the thermostat may go out through any knockout in the rough-in box. The preferred method is to run the tube within the wall as shown on diagram 3. The rubber grommet furnished with the control is to protect the capillary where it leaves the rough-in box. The capillary tubing bulb shall be covered with the

protective shield furnished with the control. The screws for attaching the shield are included. Locate the tip of the capillary bulb at the ceiling near the heater.

Caution:
The tubing should be uncoiled carefully-- the minimum bend radius of the tubing is 1/4 inch. Damage to the tubing will make the heater inoperative. The electrical wiring of the control should be as shown in Diagrams 1, 3, 4 & 5.

SECTION 6: RESET BUTTON

This heater is equipped with an overheat safety device. In the event of an abnormal heating condition, the heater will automatically shut off and the heater cannot be turned on again until the heater cools. The reset button is located on the top center of the junction box, under the painted shell. See Diagram 4. Pushing on the reset button, after the cooling period, will re-

store power to the heater. If the reset button continues to trip, the factory service person should be notified.

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

WARNING

Do not locate benches over heater. Minimum height of ceiling above heater 40".

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

Minimum clearance from heater to wooden surfaces (benches, side walls, heater fence etc.) 4 inches. Mounting brackets supplied. Provides proper clearance from wall behind heater.

Rock preheat required. Although the rocks are specially selected for use with this sauna heater, concealed moisture could cause the rock to crack and project fragments causing potential injury hazard 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 limit switch to trip.

Use only copper wire of the size and type indicated in the wiring diagrams and the temperature rating indicated on the heater junction box.

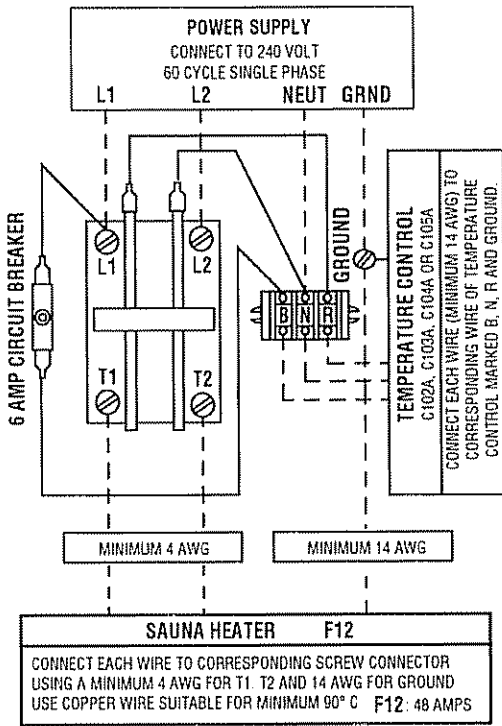
All heaters, controls and contactors must be grounded per NEC to prevent electrical shock in case of unit failure.

For fire and health safety, temperature controls C104A and C105A may be used only where an attendant is present.

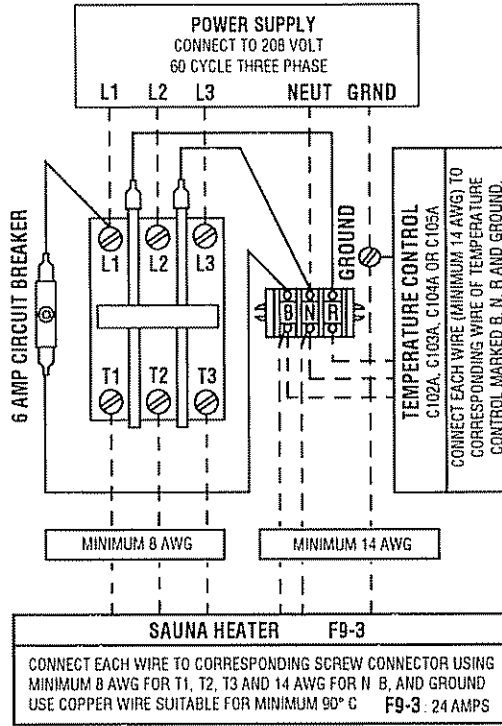
The tubing should be uncoiled carefully -- the minimum bend radius of the tubing is ¼". Damage to the tubing will make the heater inoperative.

DIAGRAM 2

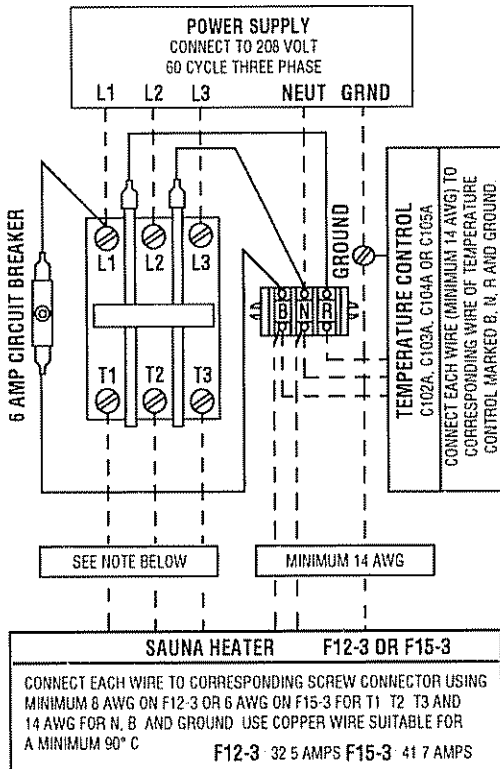
R12 CONTACTOR



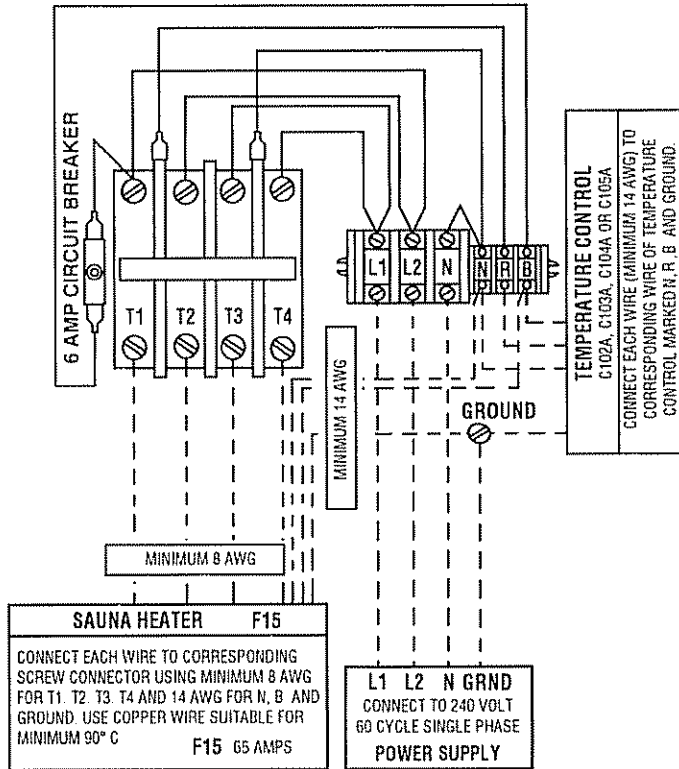
R93 CONTACTOR



R153 CONTACTOR



R15 CONTACTOR



SECTION 7: ELECTRICAL OUTLETS OR RECEPTACLES

Caution:
Electrical outlets or receptacles must not be installed in a sauna room.

If an intercom speaker is to be installed in a sauna room, it should be of the outdoor metal type and should be installed away from the sauna heater and as low to the floor as possible.

The sauna room light should be a wall bracket type and the rough-in box should be flush with the inside finish material. The recommended height is 70" up from the floor. If a ceiling light is to be used, it should be an approved type with a junction box that is remote to the fixture itself. Use only a fixture that utilizes A F or fixture type internal wiring.

SECTION 8: HEATER GUARD RAIL

It is required that a guard rail or fence be constructed around the sauna heater to prevent the bather from making physical contact with the heating unit. The guard rail must not be

closer than four inches to the exterior walls of the heater. If the heater is to be located in the corner of the room, one section of the guard rail may be deleted. See diagram 6.

SECTION 9: 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. The clear acrylic placard printed "SAUNA BATHER INSTRUCTIONS" should be mounted outside the sauna room, next to the door, at eye level. Nails for attaching the placard are furnished.

SECTION 10: THERMOMETER/HUMIDITY GAUGE

(Not furnished with heater. Available from your AMEREC dealer.) Locate 6" down from ceiling on wall so that gauge can be observed from outside sauna room through door window.

Temperature displayed on thermometer during the initial heat up will tend to lag actual room temperature by 15 to 20 degrees.

SECTION 11: BUCKET AND DIPPER

(Not furnished with heater. Available from your AMEREC dealer.) Dippers have long wooden handles to help keep from exposing hand to

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

WARNING

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

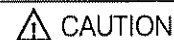
A guardrail or fence is required around the heater to prevent burns from accidental contact.

The "Caution" and "Warning" placards must be mounted in accordance with Section 9.

**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.

DIAGRAM 3

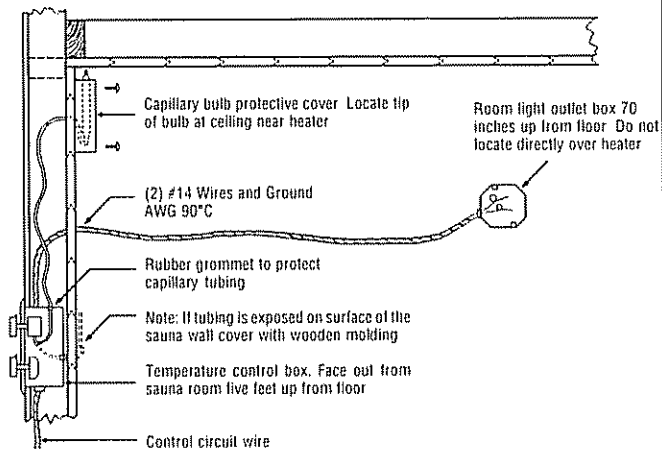


DIAGRAM 4

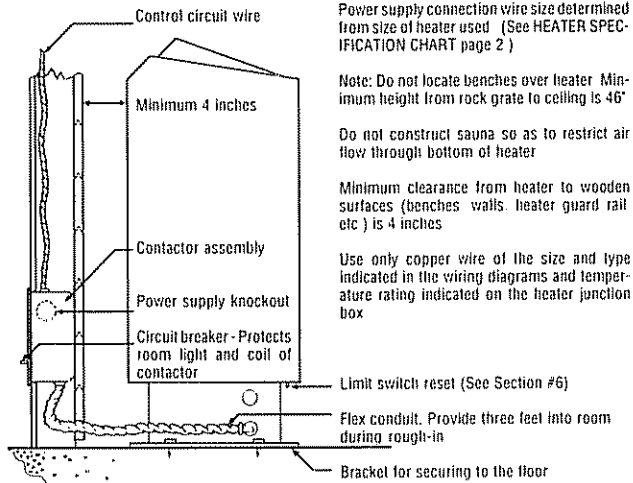
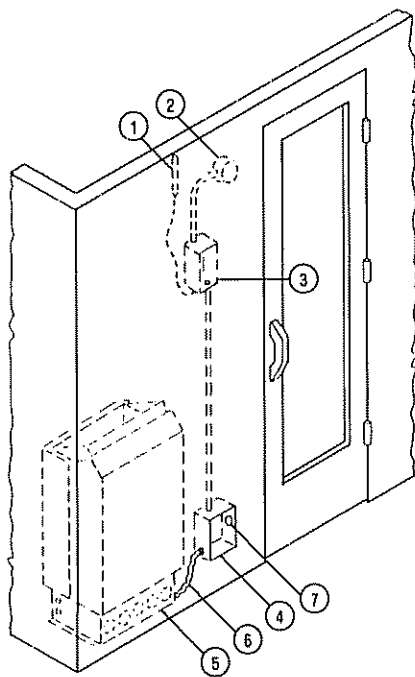
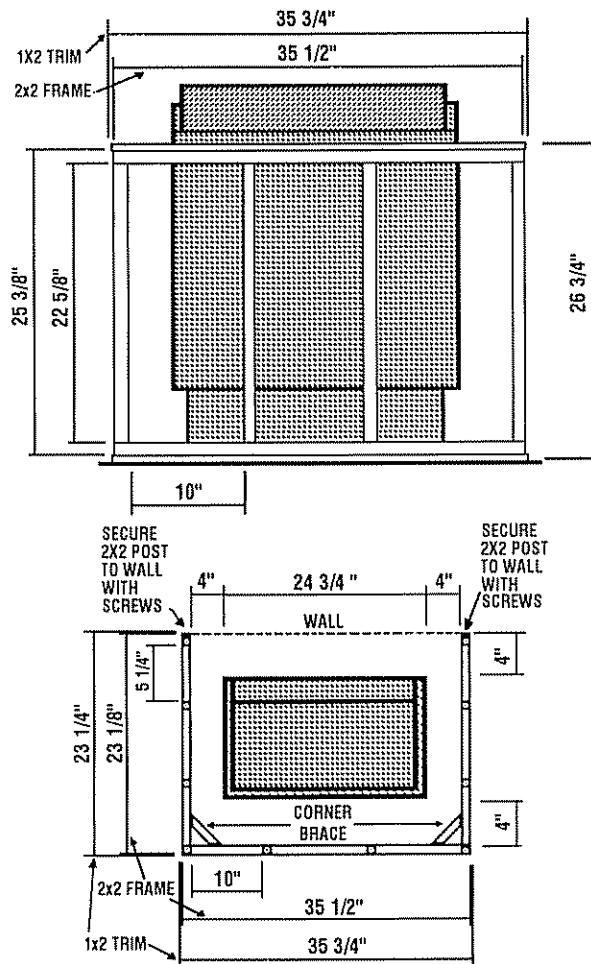


DIAGRAM 5



- 1 Capillary bulb (See Section 5)
- 2 Light fixture box Up 70 inches to center. (See Section 7)
- 3 Room temperature box Up 60 inches to center
- 4 Contactor assembly box Bottom of box up 6 inches
- 5 Sauna heater
- 6 Flexible conduit Use copper wire good for minimum 90°C
- 7 Field wiring power supply connection

DIAGRAM 6



Note: we suggest that you apply wood glue (not supplied) to each joint when assembling the guard rail

SECTION 12: ROOM CONSTRUCTION (Architectural Recommendation)

Refer to the Heater Specification Chart on page 2 to ascertain that the room size and the heater model are to the correct specifications

Wall Framing: Masonry or concrete walls to be stripped with 2 x 4 dry framing material on 16 inch centers to provide nailing for wall paneling. Frame walls to be standard stud walls. If interior cedar is to be mounted vertically then horizontal furring strips are required

Insulation: Full thick foil faced fiberglass blanket with a minimum "R" factor of 11 for both walls and ceiling. Aluminum foil facing into room

Ceiling Frame: Ceiling height 84" preferred, 78" minimum and 96" maximum. Ceiling joists 2 x 4, 2 x 6 or 2 x 8 dry fir 16 inch center.

Plasterboard: (when required by code) 5/8" gypsum wallboard, one hour fire rated. Apply on wall and ceiling framing before interior finish.

Interior Finish: 1 x 4 V-joint T&G vertical grain KD cedar. All boards full length. Blind nail with 5d galvanized nails or equivalent power stapling

Benches: 1 x 4 or 2 x 4 clear VG cedar with 1 x 4 or 2 x 6 face and frame members. Use galvanized nails and fasteners, concealed where possible

Heater Guard Rail: Clear VG KD cedar (see Section 8)

Sauna Door: Amerec pre-hung model G2P of solid fir complete with clear tempered, hermetically sealed glass, wooden door pull and self closing hinge. Sauna door must open out and not lock

A COMPLETE LINE OF ADDITIONAL SAUNA ACCESSORIES ARE AVAILABLE FROM YOUR

AMEREC DEALER: Upon completion of the sauna installation, please leave all instructions and warranty with the owner.

Ventilation Openings: Amerec heaters do not require ventilation openings. Rooms may or may not be provided with ventilation openings. If ventilation openings are desired, it is recommended that the openings meet the requirements of UL Specification 875, paragraph 41.7A as follows:

41.7A Inlet ventilation opening shall be located at the bottom of the wall, as close to the floor level as possible. The minimum size of the ventilation openings for a room shall be determined using one of the following formulas:

$$\text{For } R < 31: V \geq 9.3, \\ \text{for } R \geq 31: V \geq 0.3R.$$

In which:

R is the floor area of the room in square feet, and

V is the minimum area of ventilation openings in square inches

For the SI system of units, the equations are:

$$\text{For } R < 2.9: V \geq 60, \\ \text{for } R \geq 2.9: V \geq 20.8R,$$

In which:

R is the floor area of the room in square meters, and

V is the minimum area of ventilation openings in square centimeters.

Outlet ventilation openings shall be located at the top of the wall, as close to the ceiling as possible, and shall meet the same minimum size requirements as for inlet ventilation openings.

WARNING

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.

SECTION 13: OPERATING INSTRUCTIONS

Congratulations and thank you for choosing AMEREC. Your new AMEREC Sauna Heater and Controls have been designed and constructed to give you the most in performance, economy and comfort. The following information is presented as a guide to help you get the most pleasure from your new sauna room

To Heat the Sauna Room: The circuit breaker in the house panel that provides power to the sauna heater should be left in the ON position. This breaker should be turned OFF if the Sauna is not to be used for some time or if the Sauna is to be serviced

SECTION 13: OPERATING INSTRUCTIONS (Cont.)

Caution:

When turning on your sauna for the first time follow steps 1 and 2 and let the heater run with no one in the sauna room through two cycles a full 120 minutes. This will allow excess oil to burn off the heating elements without causing any discomfort to the bather.

Step 1: Set the temperature rotating knob on 10. This is the highest heat setting

Step 2: If your temperature control is C102A or C103A turn the one hour timer to its maximum setting (60 minutes).

Step 3: Observe the wall thermometer (heat indicator) in the Sauna room (6" from the ceiling) and when it shows a temperature that feels satisfactory to you (160° to 180° F is normal) slowly rotate the temperature knob

from 10 back towards the OFF position until you hear a click and the red indicating light goes out. At this setting the heat will cycle ON and OFF and maintain approximately the temperature now appearing on the wall thermometer.

After you have used the Sauna a few times, you should be able to determine the number on the rotating dial that will give you the temperature that you prefer for your Sauna bath

Step 4: After you have finished your Sauna bath turn the switches OFF. The timer switch may be advanced at any time during your Sauna, or it will automatically shut the heater off when time has expired.

Note:

Your temperature control has a red indicating light; you will observe that this glows only when power is actually going to the heating elements.

SECTION 14: MAINTENANCE

The Sauna, like a bathroom, should be kept clean and odor free

Towels or mats should always be used on benches and floor as perspiration otherwise penetrates the soft wood

Air out the Sauna often by keeping the door and vents open when the Sauna is not in use. Saunas that are in daily use should be washed down at least once a week to keep them clean and the air fresh. Duckboard should be removed from the Sauna, the Sauna floor mopped and dried in a conventional manner, and the duckboard thoroughly scrubbed and dried before returning to the Sauna room. The Sauna

heater should be wiped down occasionally with a damp cloth to remove lint and dust. The rocks should be removed once a year for cleaning and small or crumbled rocks replaced

To clean and remove perspiration stains, use soap or detergent in warm water. Best applied with a scrub brush. Badly soiled surfaces may require sanding. Sand paper wrapped around a wooden block works well

Benches and supporting structure must be inspected annually for potential deterioration due to age, dry rot or abuse. Any boards with signs of deteriorations should be replaced immediately to avoid possible injury



Manufactured by: **NASSCOR**
P O Box 40569 Bellevue, WA USA 98015
(425) 643-7500 (800) 331-0349 FAX: (425) 643-2124