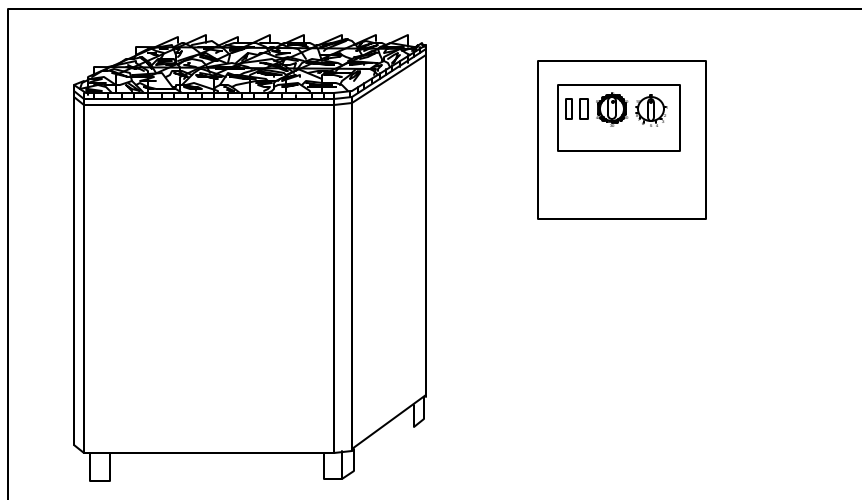


Installation & Operation Instructions



SAUNA HEATER 1105-105, 1105-120 & 1105-140

MODELS LA, FLG, DL 10.5, 12.0 & 14.4

(Hereafter referred to as LA)

(FA#T and MA#T controls hereafter referred to as **FA2T** or **FA3T**)

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 heaters are UL approved for permanent installations and electrical connections. Built with splash proof construction, the conducting parts are protected against water. All wiring must be performed in accordance with local codes. See Diagram 2 for wire and room size requirements. These heaters are free standing, secured to the floor, 20" x 20" x 28", with separate 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

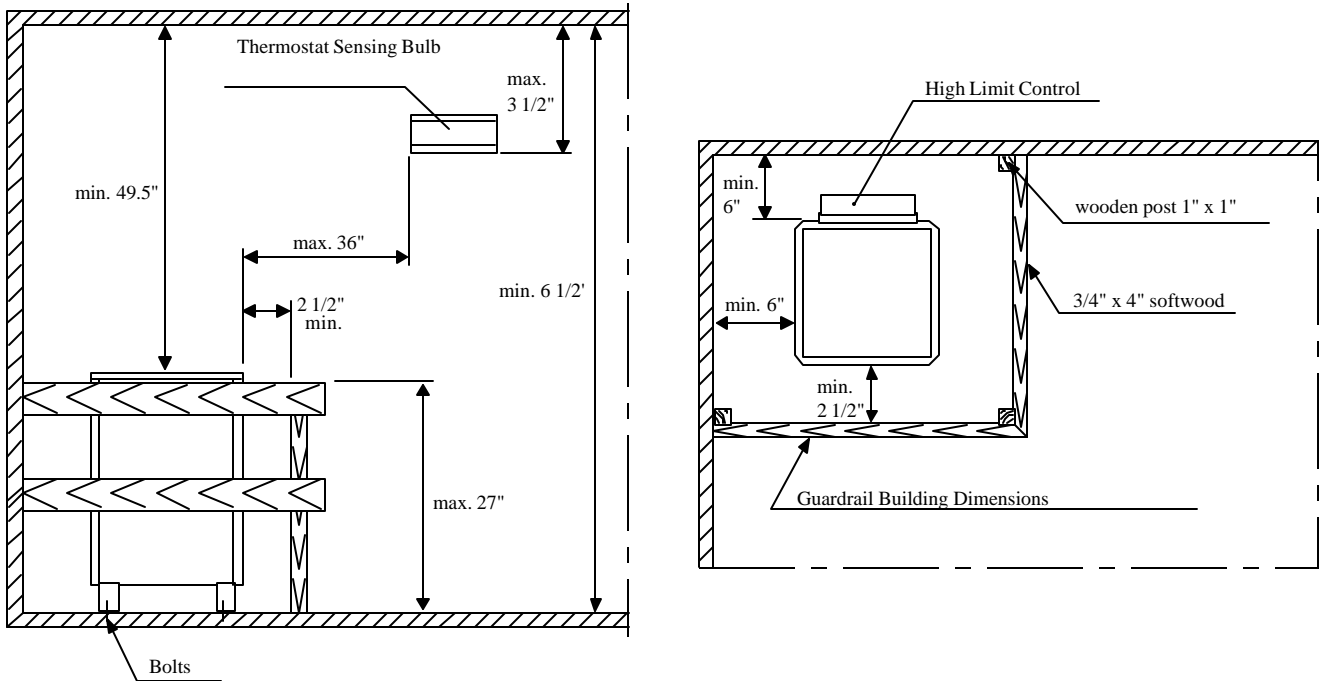


DIAGRAM 2

HEATER		kW	MINIMUM ROOM			MAXIMUM ROOM		CONTROL				
MODEL	TYPE		Floor Area	Ceiling Height	Volume Cu.Ft.	Ceiling Height	Volume Cu.Ft.	MODEL	TYPE	PHASE	VAC	AMPS
LA 105	1105-105	10.5	60 sq. ft.	78"	390	96"	600	FA3T	1201-3-18	1	208	50.5
								FA3T	1201-3-18	1	240	43.8
								FA2T	1201-2-18	3	208	29.2
								FA2T	1201-2-18	3	240	25.3
LA 120	1105-120	12.0	78 sq. ft.	78"	510	96"	740	FA3T	1201-3-18	1	208	57.7
								FA3T	1201-3-18	1	240	50.0
								FA2T	1201-2-18	3	208	33.3
								FA2T	1201-2-18	3	240	28.9
LA 140	1105-140	14.4	97 sq. ft.	78"	630	96"	950	FA3T	1201-3-18	1	208	69.2
								FA3T	1201-3-18	1	240	60.0
								FA2T	1201-2-18	3	208	40.0
								FA2T	1201-2-18	3	240	34.6

Controls require a separate 120 volt circuit. This voltage also supplies the light circuit.

SECTION 1: GENERAL INFORMATION, Continued

When this heater is not installed for use with an attendant, a time-cutoff switch must be connected in the input circuit to disconnect all ungrounded conductors of the heater circuit from the supply source at the end of 1 hour of operation. The timed-cutoff switch shall be located outside the heated room. The time feature of the switch must not lend itself to being overridden.

SECTION 2: MOUNTING OF SAUNA HEATER

Carefully locate the heater according to the dimensions shown in Diagram 1 and bolt it to the floor. (Bolts are not supplied with the heater.) Tighten to secure the heater in place.

SECTION 3: PLACING OF ROCKS

The rocks supplied with the heater have been chosen to provide the best heater performance. Use of any other type of rock may void the heater's warranty. Never operate the heater without rocks in place! Rinse the rocks with water before placing in the heater. Place the rocks loosely so that the air can circulate through the heater. Packing the rocks too tightly may cause the heater high limit switch to trip. The rocks must fully cover the heating elements. Reattach the guard with the screws provided.

SECTION 4: ELECTRICAL HOOK-UP

Electrical installation must be made by a licensed electrician in accordance with the National Electrical Code and local regulations.

To determine the correct wire size, refer to Diagram 2. Use copper supply wire only, suitable for minimum 90 degrees C. The heater must be grounded! See the heater and control wiring diagrams for proper connections.

SECTION 5: HEATER CONTROL PANEL

The heater control panel must be installed in a dry place outside the sauna room. The heater control panel has a built-in 60 minute timer and a capillary bulb thermostat. Length of the capillary tube is 6ft. The sensing bulb of the thermostat must be installed in the sauna room. Distance from the heater control panel to the sauna room is limited by the length of the capillary tube. Locate and install the sensing bulb of the thermostat following the instructions in Diagram 1. Do not compress or kink the capillary tube and all bends should have a minimum 5/8" radius. Refer to Diagram 3 & 4.

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.

Do not install a shower in the sauna room.

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.

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

DIAGRAM 3

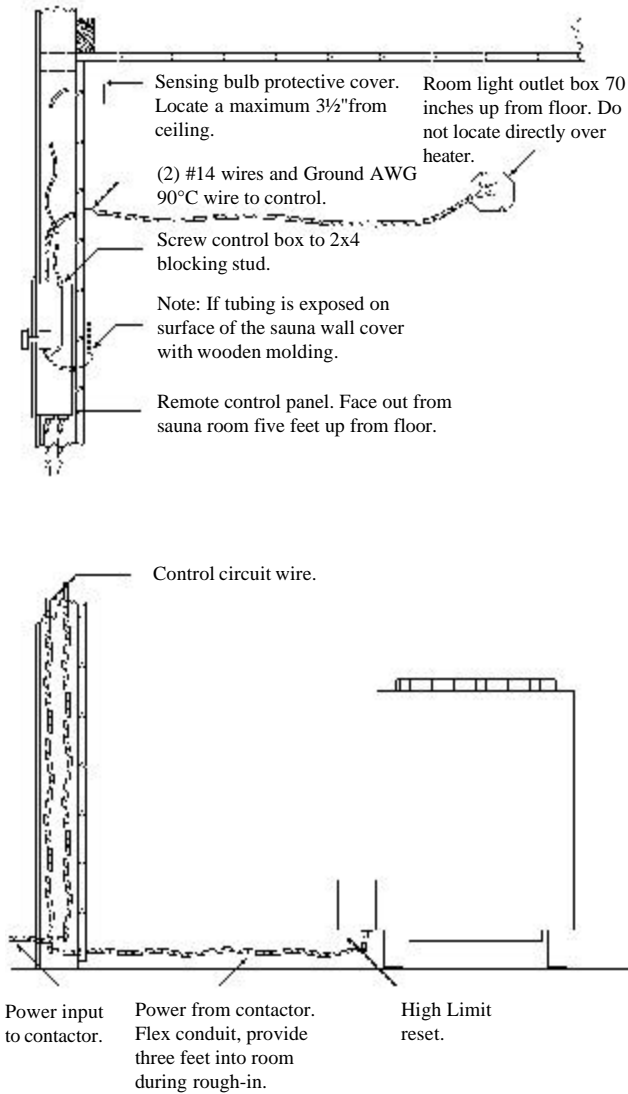
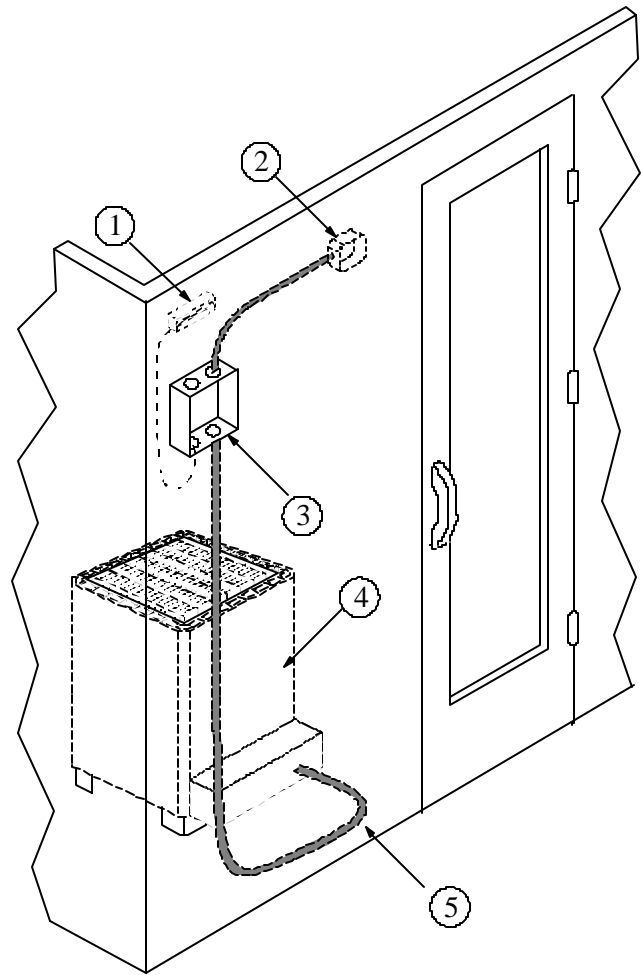


DIAGRAM 4



1. Capillary sensing bulb.
2. Light fixture outlet box.
3. Heater control panel.
4. Sauna heater.
5. Flexible conduit. (Use copper wire rated at 90° C.)

SECTION 6: HEATER SCREEN (GUARD RAIL)

Install a wooden heater guard to prevent the sauna bather from accidentally touching the sauna heater. Install the heater guard rail with the height clearances and dimensions shown in Diagram 1. The guard rail around the heater must be no higher than the level of the rocks in the heater.

SECTION 7: OPERATION

The heater is intended for use with the FA-3T or FA-2T heater control panel only. For health and fire safety, never attempt to alter or bypass the timer or thermostat. If the heater is intended for use in a commercial application having an attendant on duty, the heater control panel may be ordered without a timer, model FA3 or FA2 control panel. If the heater is intended for use in a commercial application without an attendant, a 60 minute timer must be connected in the input circuit to disconnect all conductors of the supply circuit while the heater is not in use.

The FA3T and FA2T heater control panels include a 60 minute timer, thermostat, light switch, and on off indicator light.

Setting The Temperature:

Adjust temperature by turning the thermostat knob. To raise the temperature turn the thermostat knob clockwise. To lower the temperature turn the knob counter-clockwise.

Setting the Time:

Use the timer to turn the heater on. To start the heater, turn the timer knob to the desired setting. Maximum operating time is one hour. After using the sauna, switch off the heater by turning the knob of the timer to OFF. An illuminated red signal lamp indicates when the heater is ON.

WARNING

Do not locate benches over heater. Minimum height of ceiling above heater 49½".

Minimum clearance from heater to wooden side wall surfaces is 6"; minimum to benches and heater fence is 2½ inches.

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 receptacles must not be installed in a sauna room.

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

For control panels without a 60 minute timer an attendant must be present at all times.

DIAGRAM 5

SINGLE PHASE WIRING DIAGRAM: HEATER MODELS LA 10.5, 12.0 & 14.4
 Heater Type: 1105-105, 1105-120 & 1105-140

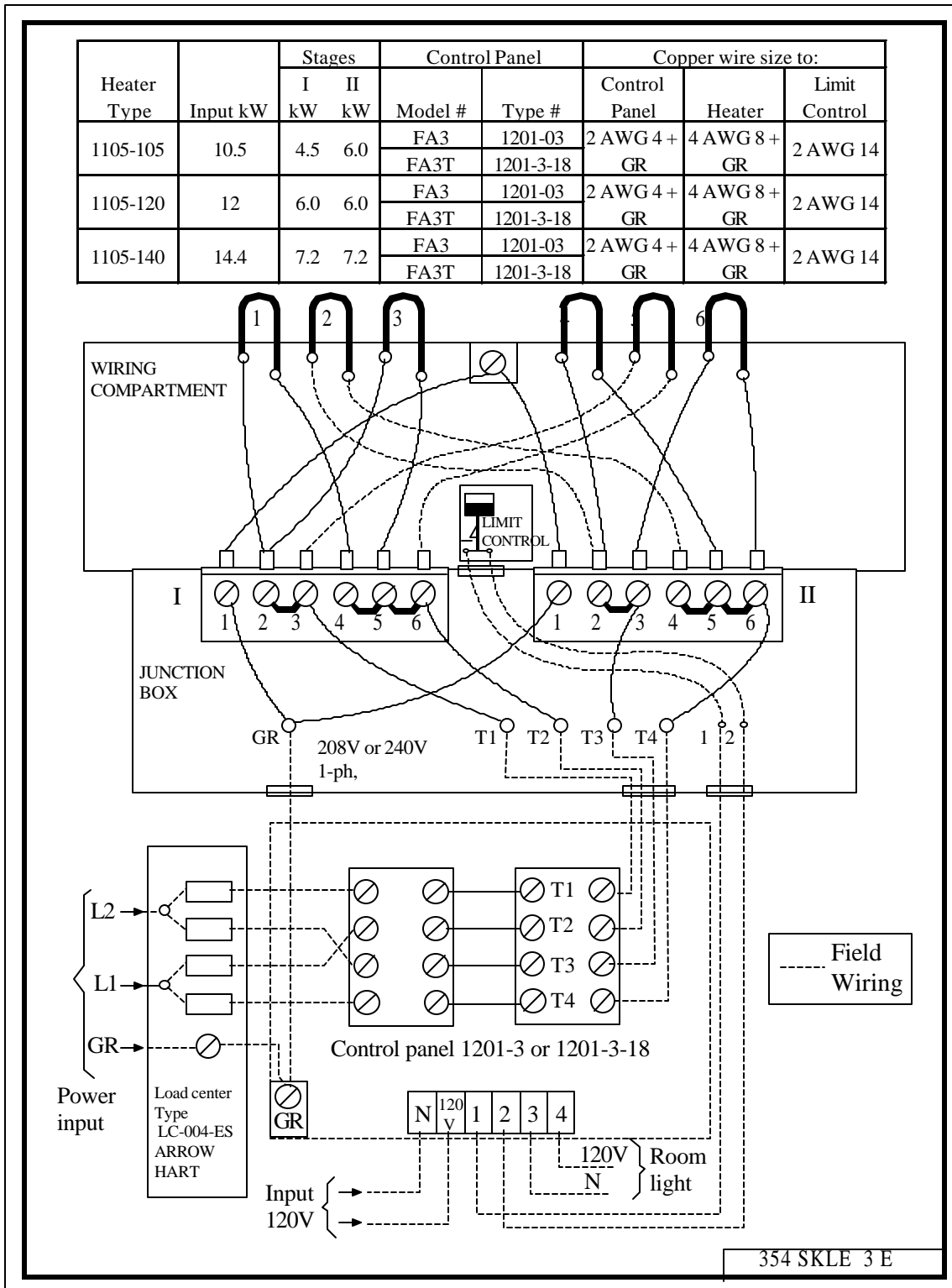


DIAGRAM 5, Continued

THREE PHASE WIRING DIAGRAM: HEATER MODELS LA 10.5, 12.0 & 14.4

Heater Type: 1105-105, 1105-120 & 1105-140

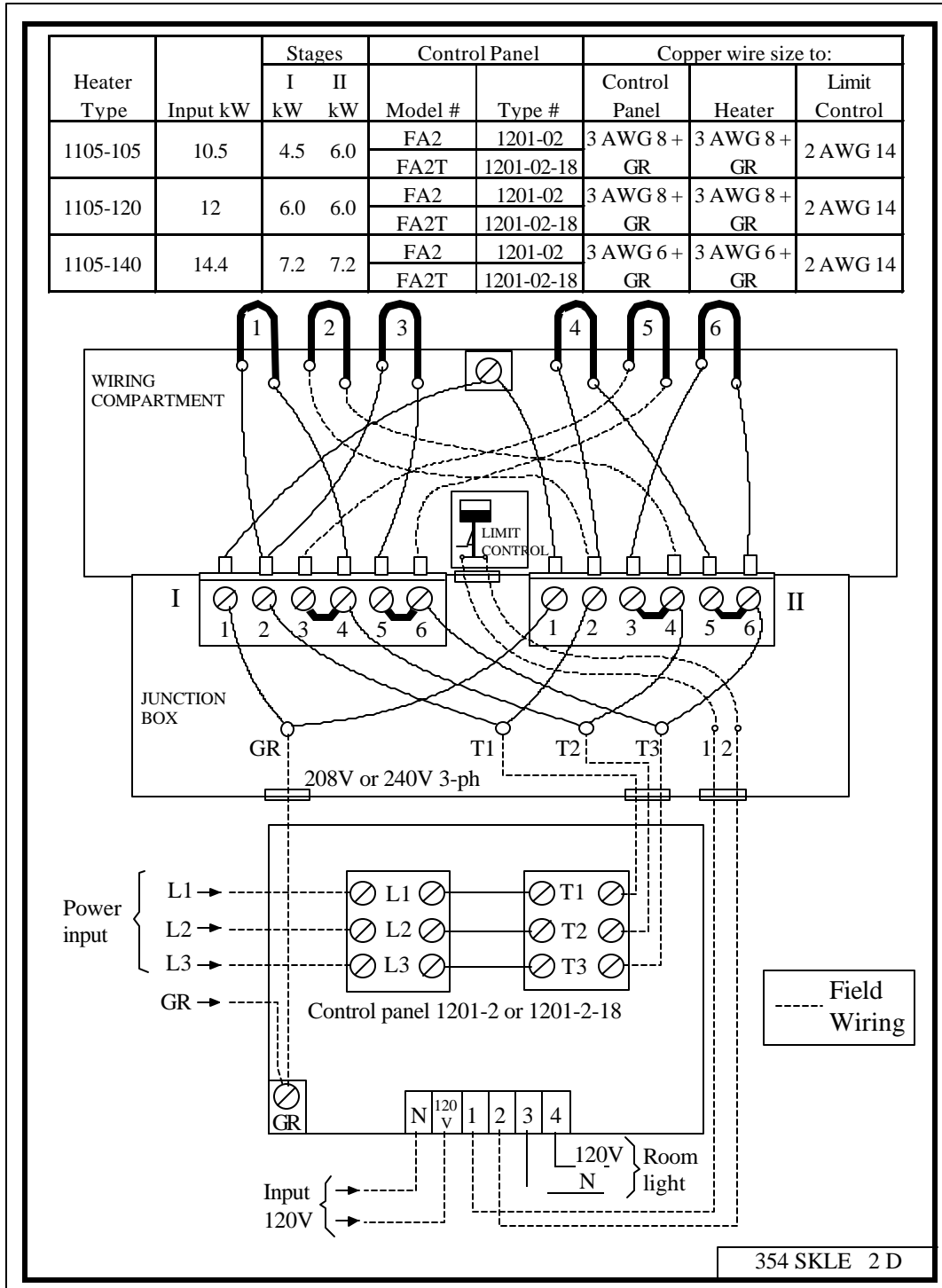
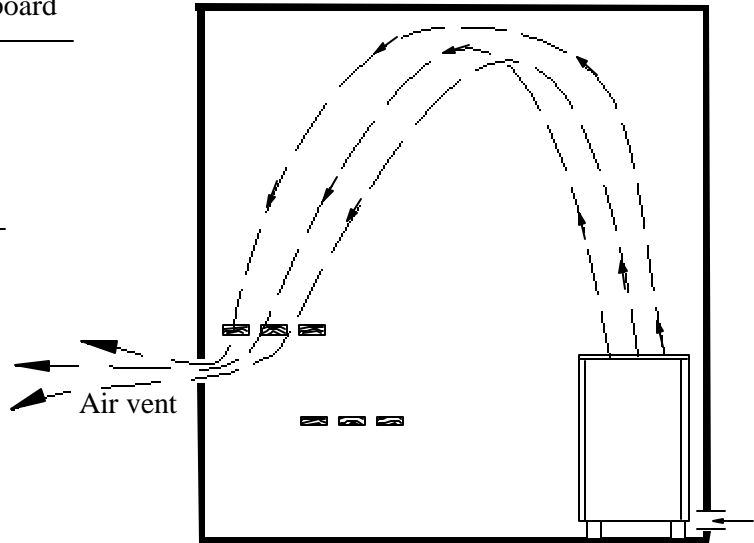
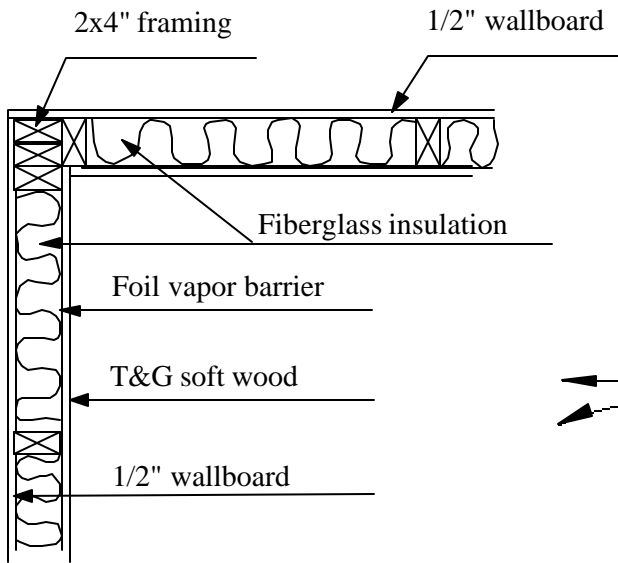


DIAGRAM 6

DIAGRAM 7

TYPICAL PRE-CUT WALL CONSTRUCTION



SECTION 10: WARNING PLACARDS

Two metal placards are included in the Installation Instruction Envelope packaged with every 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 can 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 can be installed in a sauna room.
- No electrical receptacle shall be installed inside the sauna room.
- The enclosed WARNING: Reduce the risk of overheating ...the 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 ... the caution plate must be mounted on the interior wall above the heater.
- The heater must 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 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 hazardous to your health.
- * Superheated steam can burn.
- * 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 Use Combustible Material on the Heater. Always Trim.

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.

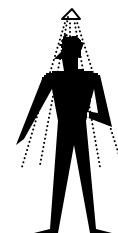
SECTION 8: LIMIT CONTROL (RESET BUTTON)

The sauna heater has a built-in High Limit control, which automatically turns off the heater if the temperature inside in the sauna room rises to an abnormally high level.

To restart, let the heater cool, then push the reset button on the bottom of the heater, See Diagram 3. If the High Limit continues to shut off the heater, contact a service representative.

SECTION 9: HOW TO TAKE A SAUNA

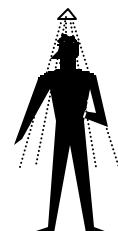
- When taking a sauna, allow time to relax completely.
- Remove clothing and jewelry.
- Some sauna bathers enjoy the soothing effect of steam by splashing water on the heated sauna rocks. Use only one dipper full (approx. ½ cup) at a time and take care to keep clear of the steam as it rises off the rocks.
- After 10 minutes or when perspiring freely, leave sauna and relax in the dressing area...follow with a warm shower.
- Enter sauna room again when ready and stay 5 or 10 minutes.
- Repeat the cycle 2 or 3 times; end with a warm shower...rinse in cool water.
- Dress when completely dry and perspiration has stopped.
- Do not smoke, exercise or drink alcoholic beverages in the sauna room.
- Do not pour chlorinated pool or spa water on the heater or corrosion damage may result.



Shower



Sauna (10 - 15 min.)



Shower or swim



Rest (10 - 15 min.)



Relax with juice or water

Like it?
Do it again and
feel great.

SECTION 12: VENTILATION

VENTILATION Ventilation shall be provided in a sauna, the air should be changed about 6 times an hour. This can be achieved by making a vent opening (fresh air inlet) in the sauna wall directly below the heater. The air outlet must be lower than the upper benches, as far as possible from the heater and about two feet higher than the fresh air inlet vent, See Diagram 8.

The minimum opening should be determined using one of the following formulas:

$$\text{For } R < 31, \quad V \geq 9.4$$

$$\text{For } R \geq 31, \quad V \geq 0.3R$$

where R = the floor area of the room in square feet and

V = the minimum vent size in square inches

SECTION 13: 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 deterioration should be replaced immediately to avoid possible injury.

SECTION 14: TROUBLESHOOTING

For troubleshooting or service questions call 1-888-780-4427 and ask to speak with service. Also contact the following e-mail addresses for sales or technical support.

sales@saunatec.com
techsupport@saunatec.com