


# TyloHelo Pro Heater with Tylo Pure or Elite Control

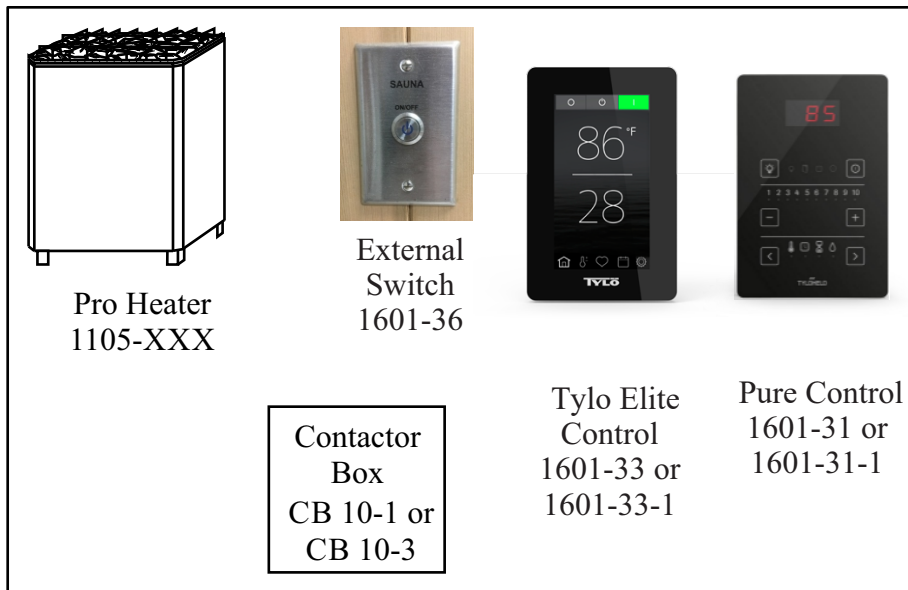


Freestanding Pro heaters have been the standard of the industry for more than 20 years. Designed for large, commercial-sized sauna rooms and for use with separate control panels.

Stainless steel construction. Contactor box required.

Links:  
[Pro Heater with Elite/Pure Control Manual](#)

PRO	PRO 105	PRO 120	PRO 140
Sauna size (cu. ft.)	390-600	510-740	630-950
Heating power (kW)	10.5	12.0	14.4
Vulcanite rocks (lbs)	132	132	132
Amps / Voltage / Phase	43.8 / 240 / 1	50.0 / 240 / 1	60.0 / 240 / 1
Shipping weight	68	70	75
Dim. (inch) (W x H x D)	20 x 29 x 19	20 x 29 x 19	20 x 29 x 19
Control unit	Elite, Pure 2.0,	Elite, Pure 2.0,	Elite, Pure 2.0,



**Pro 10.5, 12.0, & 14.4** (Model # 1105-105, 1105-120 & 1105-140)

with **Tylo Elite Control** (Type # 1601-33 and 1601-33-1)

And / Or **Pure Control** (Type # 1601-31 and 1601-31-1)

And / Or **External Switch** (Type # 1601-36).

Read all instructions carefully before installation. Please leave all instructions and warranty 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 ETL approved by Intertek for permanent installations. All wiring must be performed in accordance with the NEC and local codes. See **Table 1** for wire and room size requirements.

These heaters are free standing, secured to the floor, 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.*



## 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 heaters warranty. Never operate the heater without rocks in place! Rinse the rocks with water before placing in the heater. Place the larger rocks at the bottom and the smallest at the top. 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. Attach 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.

This heater is intended for use with Tylo Elite and Pure controls only. Use of any other control will void the warranty and safety listing. The control must be installed in a dry location outside the sauna room.

The model CB 10-3 contactor is required for use with 3 phase heaters, the model CB 10-1 contactor is required for use with single phase heaters. To determine the correct wire size, refer to Table 1. Use copper supply wire only, suitable for minimum 90 degrees C. The heater must be grounded! See the heater diagrams for proper connections. The location must be selected to allow installation of the thermostat's temperature sensor shown in Diagram 1. (9 foot sensor wire supplied, but may be extended with equivalent 2 conductor wire.)

Contactor Box can be surface mounted with 4 screws to a wall or in the stud wall cavity. Refer to Diagram 1 for details.

## SECTION 5: TEMPERATURE SENSOR

Route the sensor wire from the contactor box to the sensor location. It may be necessary to drill holes to string the wire through the studs or ceiling joists. Route wire harness into contactor box and connect NTC port. **Ensure low voltage wiring and high voltage wiring is separated by a minimum of 4" or an electrical barrier.** With a flat tip screwdriver, unsnap sensor cover from sensor. Mount sensor horizontally to the finished wall directly above heater 3" inches down from ceiling. Refer to Diagrams 1, 2, & 3 for installation information.

## 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.

## 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.*

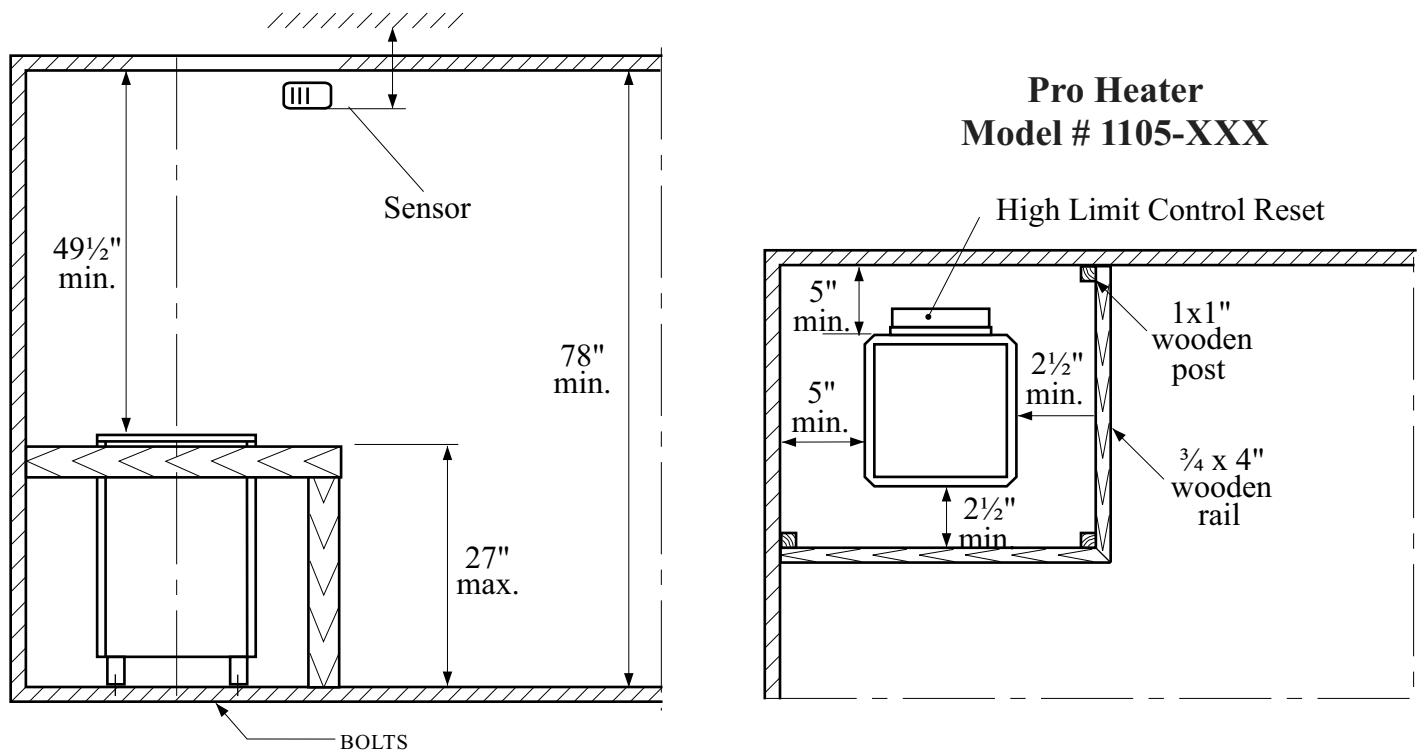
*Do not install a shower in sauna room.*

*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 1

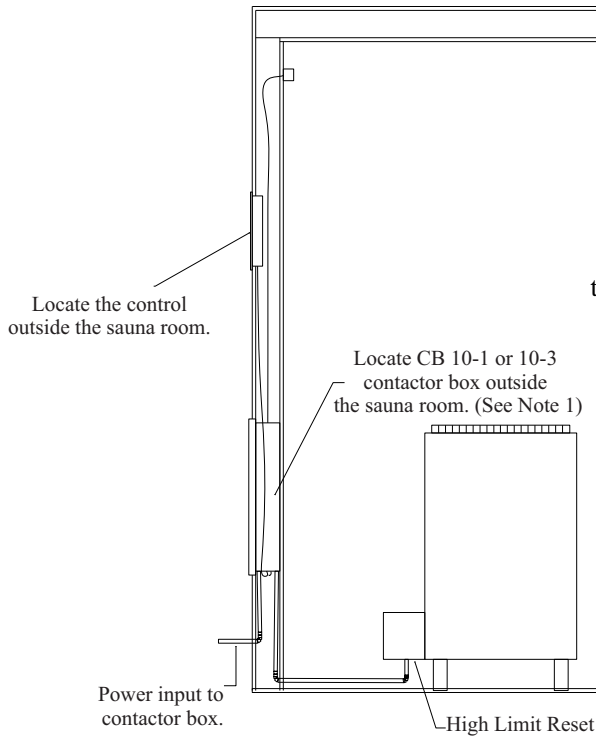


**CAUTION:** Avoid fire, Do Not Place Combustible Material on sauna heater / **ATTENTION:**  
Evitez les Incendies, Ne Placez Aucune Matière Combustible Sur Le Chauffe-saun



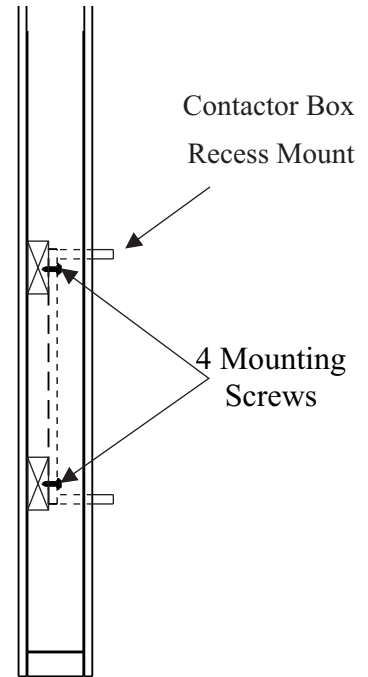
**OBSERVING MINIMUM DISTANCES IS REQUIRED TO REDUCE THE RISK OF FIRE**

## DIAGRAM 1



All wiring for sauna system or accessories should be routed inside the walls or away from the high temperature air from the sauna heater.

Controls CAN NOT be installed above the sauna heater inside the room.

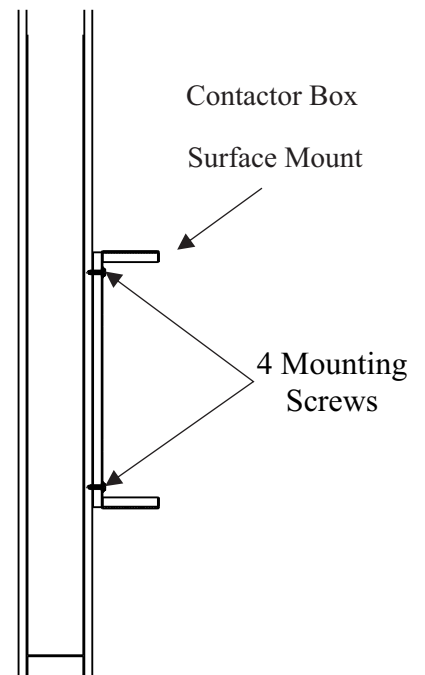
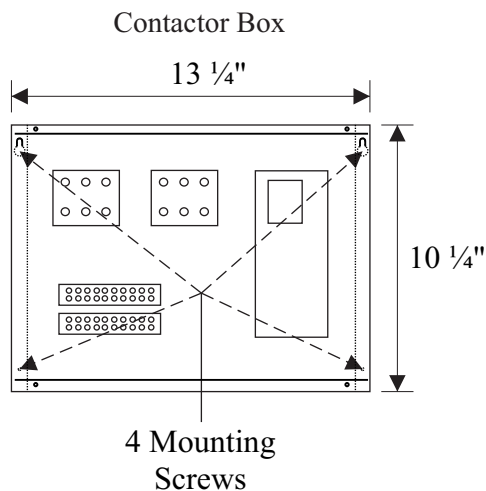


Note 1: The contactor box may be mounted anywhere outside the sauna room. A location should be selected so the front cover is accessible for service and the noise of the contactor pulling in will not be a nuisance.

**NOTE:**

Sensor and Control cable are 30' and come from contactor box to sauna

Provide a service loop into the sauna room to the proposed heater location.



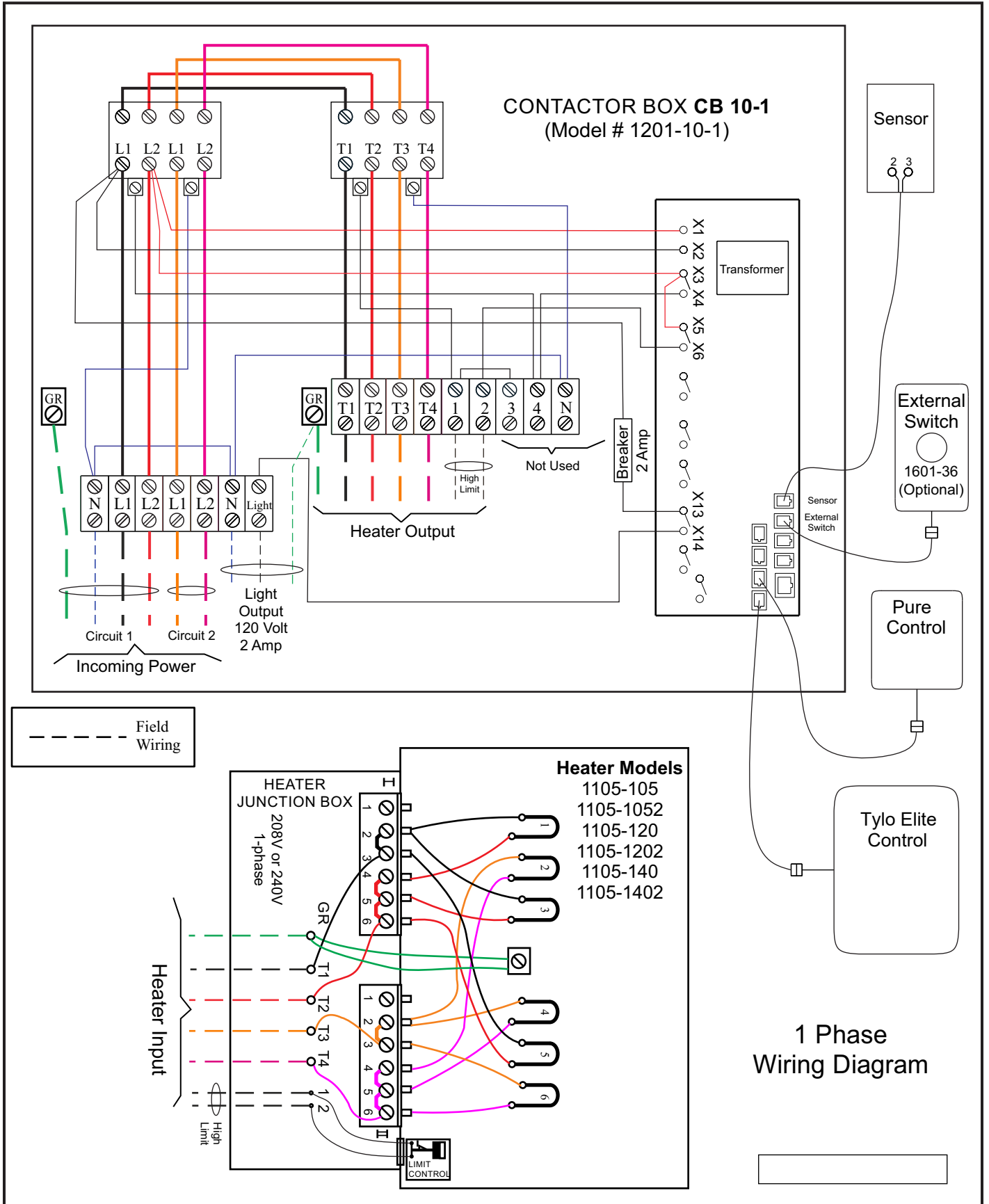
## TABLE 1

Heater Model / Product Number	KW	Minimum Room			Maximum Room		Phase	VAC	* Amps	Copper Wire Size 90° C	Contactor Model	** Breaker # and Size	Power Supply to Contactor	Contactor to Heater	Contactor to Heater High Limit	Contactor to Control	Light Circuit or Fan Circuit
		Floor Area	Wall Height	Volume Cu.Ft.	Wall Height	Volume Cu.Ft.											
Pro 10.5 (1105-105)	10.5	48 sq. ft.	78"	390	96"	600	1	208	50.5	CB 10-1 1201-10-1	2 x 40 Amps	4 #8AWG + N + GR	4 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							1	240	43.8		2 x 30 Amps	4 #10AWG + N + GR	4 #10AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							3	208	29.1	CB 10-3 1201-10-3	1 x 40 Amps	3 #8AWG + N + GR	3 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							3	240	25.3		1 x 40 Amps	3 #8AWG + N + GR	3 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
Pro 12.0 (1105-120)	12.0	63 sq. ft.	78"	510	96"	740	1	208	57.7	CB 10-1 1201-10-1	2 x 40 Amps	4 #8AWG + N + GR	4 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							1	240	50.0		2 x 30 Amps	4 #8AWG + N + GR	4 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							3	208	33.3	CB 10-3 1201-10-3	1 x 40 Amps	3 #8AWG + N + GR	3 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							3	240	28.9		1 x 40 Amps	3 #8AWG + N + GR	3 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
Pro 14.0 (1105-140)	14.4	78 sq. ft.	78"	630	96"	950	1	208	69.2	CB 10-1 1201-10-1	2 x 40 Amps	4 #8AWG + N + GR	4 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							1	240	60.0		2 x 40 Amps	4 #8AWG + N + GR	4 #8AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							3	208	40.0	CB 10-3 1201-10-3	1 x 50 Amps	3 #6AWG + N + GR	3 #6AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	
							3	240	34.6		1 x 50 Amps	3 #6AWG + N + GR	3 #6AWG + GR	2 #14AWG	(Factory Supplied)	1 #14AWG + N + GR	

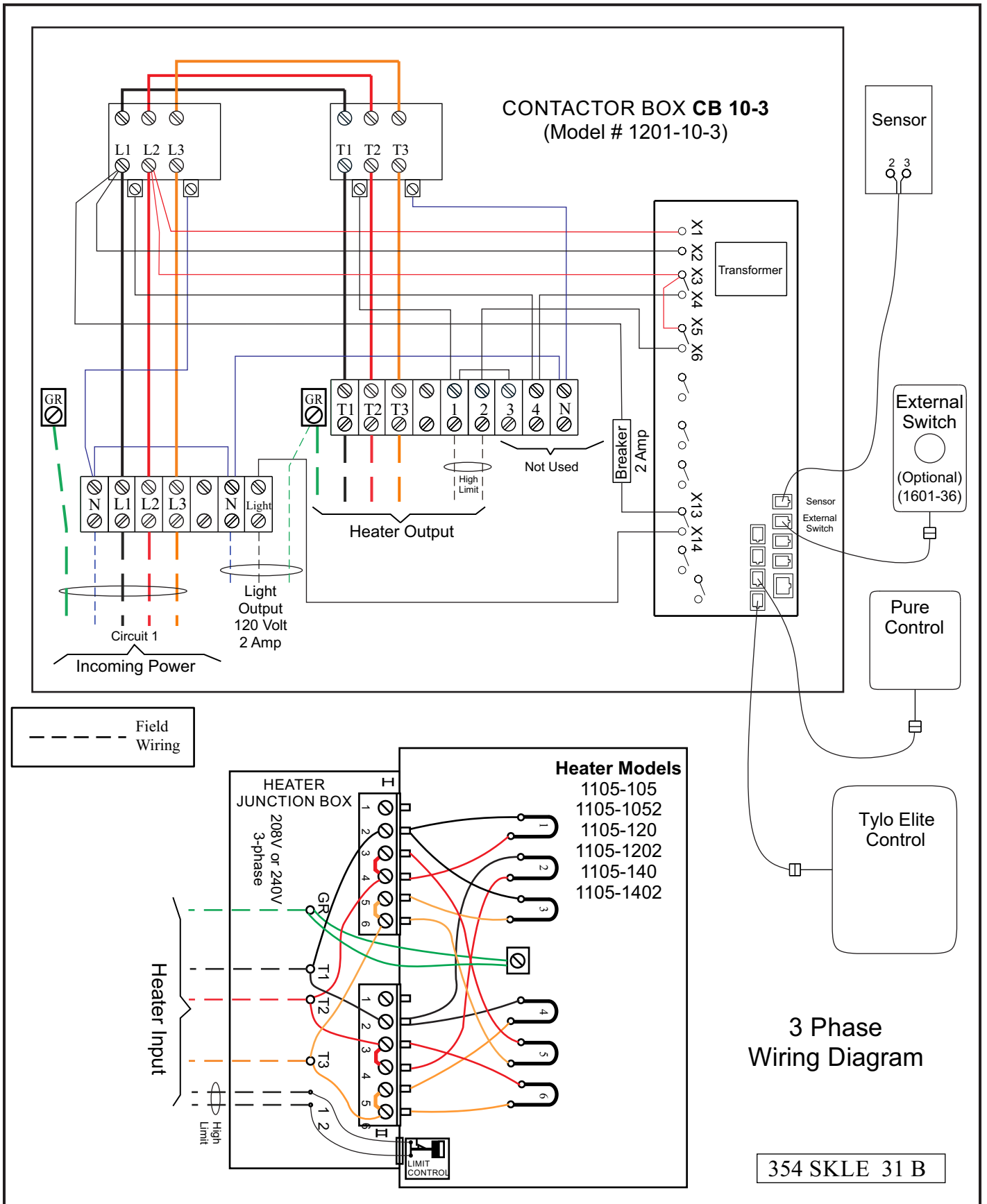
\* Total amp draw of combined circuits and accessory circuits.

\*\* Single phase heaters are supplied power from two circuits which must be grouped and marked per NEC.

## DIAGRAM 4



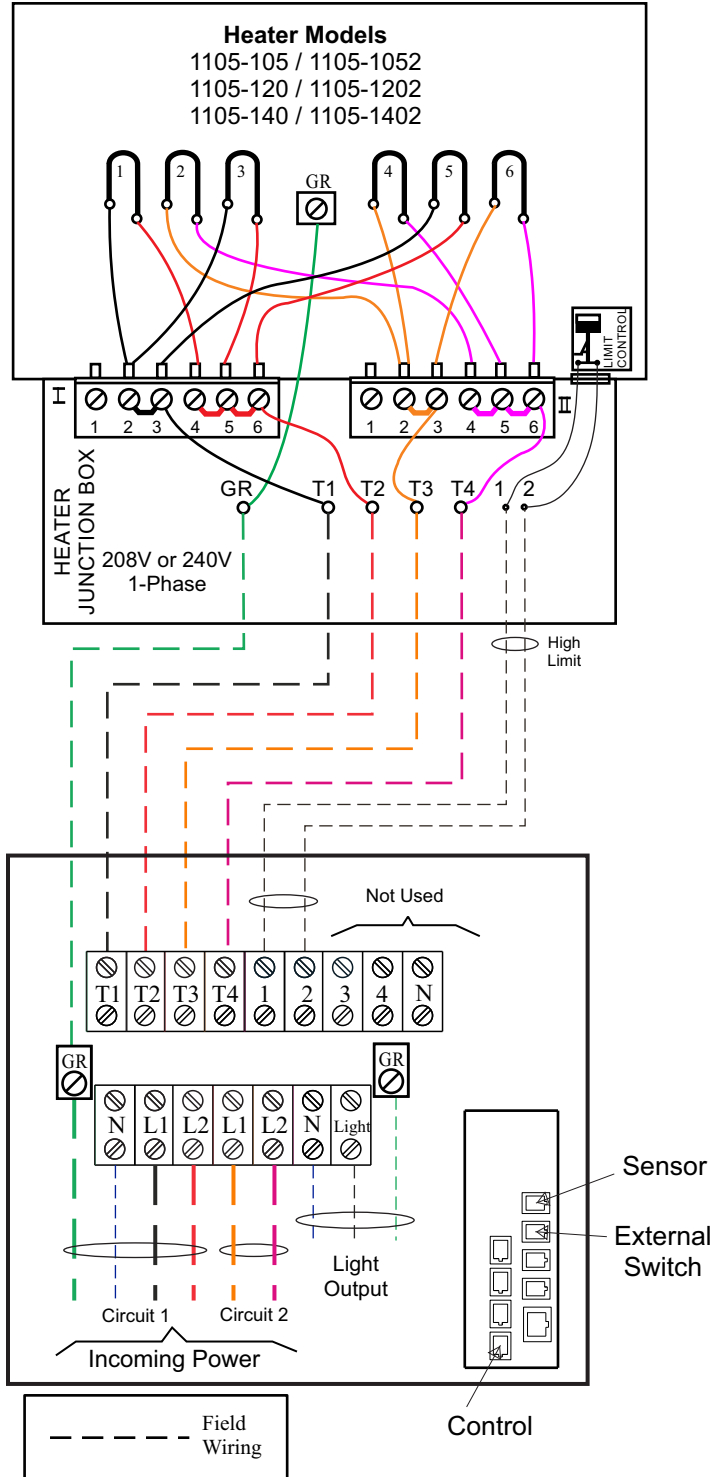
## DIAGRAM 4, Continued





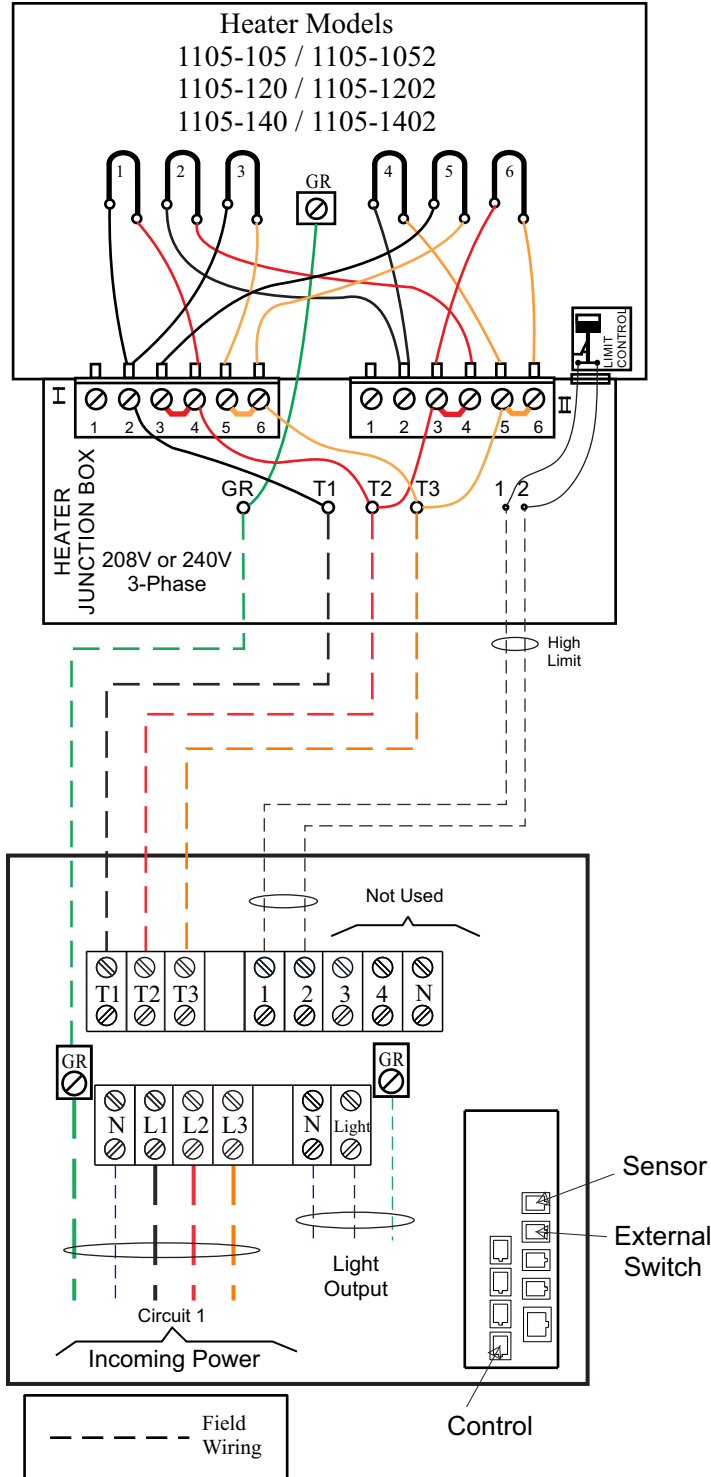
## DIAGRAM 4, Continued

1 Phase Block  
Wiring Diagram



## DIAGRAM 4, Continued

### 3 Phase Block Wiring Diagram



## SECTION 7: OPERATION

**CONTROL OPTIONS:** This heater has two different control options. A Tylo Elite Control or Pure Control can be connected to the heater. This heater can support both at the same time as another option.

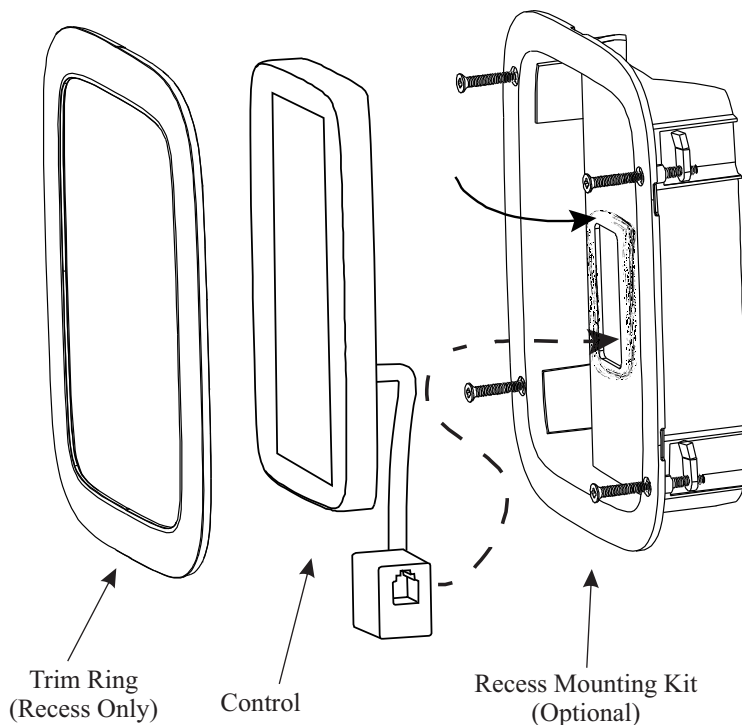
**INSTALLATION ROUGH IN:** Place the control inside or outside the sauna room. If the control is installed inside a sauna room, the top of the unit cannot be higher than 36 inches above floor. Maximum control cable length is 100 feet.

String the provided low voltage control cable through 1” holes in the wall studs or ceiling joists from the control location to the heater. Do not use staples to secure the low voltage cable, it may damage the cable!

Plug the control cable into the control and **TEST** the control **BEFORE** mounting!!

**SURFACE MOUNTING CONTROL:** After testing is complete, **CLEAN** the mounting surface to ensure it is free from dust. Remove the adhesive tape from the back of the control, push any excess cable into wall cavity and press the control to the mounting surface. (Do not use the Mounting Box or Trim Ring for this installation.)

**RECESS MOUNTING:** See page 23 for information.



## WARNING

*Do not locate benches over heater. Refer to Diagram 1 for minimum clearance of ceiling above heater is required.*

*Minimum clearance from heater to wooden surfaces (benches, side walls, heater fence etc.) is required. Refer to Diagram 1 for specific information.*

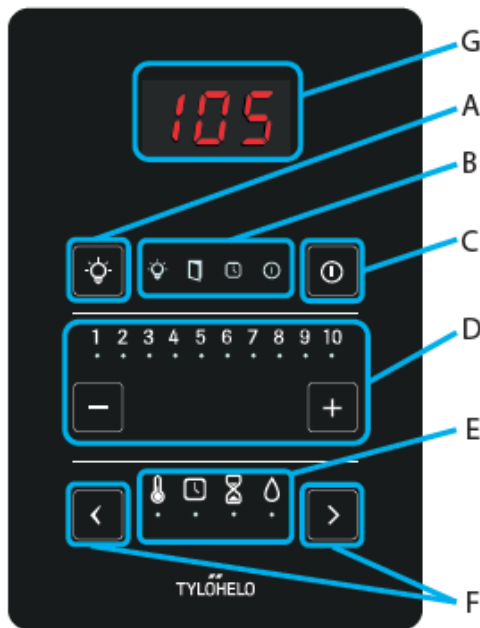
*Use only copper wire of the size and type indicated in the Heater Specification Chart and the temperature rating indicated on the heater junction box.*

*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 7: Pure CONTROL (1601-31 or 1601-31-1) OPERATION, Continued



- A. - On/Off Light Switch
- B. - Indicators - lighting, door switch (n/a), timer and the heater
- C. - On/Off Sauna Switch and fault alarms
- D. - Sets the desired value
- E. - Functions - Temperature, Delay Timer, Sauna Length and Humidity (n/a)
- F. - Function Select Buttons

### CONTROL OPERATION:

**TURN ON LIGHT:** Press the "light bulb" icon once to turn on the light and press again to turn off. (Usage of light control is optional)

**SAUNA LENGTH:** (Control 1601-31) Select the sauna length function by pressing the buttons < > (F). Set the desired usage time (0–60 minutes) using the – and + buttons. (Setting 10 equals 60 minutes)

(Control 1601-31-1) Usage time is 0 - 24 hours operation  
(Setting 1 = 2 hours, setting 10 = 24 hours)

Version	LED									
	1	2	3	4	5	6	7	8	9	10
1 hour	6 min	12 min	18 min	24 min	30 min	36 min	42 min	48 min	54 min	60 min
24 hour	2 hr	4 hr	6 hr	8 hr	10 hr	12 hr	14 hr	16 hr	18 hr	24 hr

**SET TEMPERATURE:** Press function button (F). Then you can choose the desired temperature 1–10 using buttons – and +. (Setting 10 equals highest set point.)

When the desired temperature has been set and the heater is switched on, the set temperature indicator light will remain on and the current temperature indicator LED will flash. When the current temperature reaches the set value the indicator light will stop flashing.

### START HEAT IMMEDIATELY:

Start the heater by pressing the On/Off button. The latest temperature and usage time settings will remain preset. A green indicator light will come on in area (B) to indicate that the device has been switched on.

You may switch the system off before the usage time ends by pressing the same button again. The indicator light will go out.

**TIME DELAY START TIME:** The control may be set to delay start mode to activate the heater after a preset amount of time. Select the clock symbol using the function button (F). Use the – and + (D) buttons to select the amount of hours (1–10 hours) after which the device will switch on. Activate a later start by pressing the Start button (C).

The timer symbol light will come on (in field B) and the selected time-lapse indicator light will start flashing. The flashing indicator measures and indicates the time leading up to the device being switched on. When the heater starts, the control panel will automatically show the set temperature.

## SECTION 7: EXTERNAL SWITCH CONTROL (1601-36) OPERATION

### External Switch

This momentary, illuminated switch provides simple ON/OFF function to your Pure or Tylo Elite Sauna Control. In a commercial environment, it is recommended that the main Sauna Control be located either in a utility closet or at the Attendant's desk so the sauna time and temperature functions can be secured from the general public. This optional external switch will provide the sauna bather with the ability to turn the sauna ON or OFF only.

When the momentary switch is activated, the power icon will illuminate in blue and activate the sauna session that has been programmed into the main control (Pure or Tylo Elite).

Activating this button will also turn the interior sauna light on, if the light has been wired to the light output on the sauna heater's PCA board.

Pressing the switch when it is illuminated will remove power to the sauna heater and end the bathing session.



**This switch cannot function as a control.** It has to be connected to the system with another control.

## 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 the heater, let the heater cool and the timer run down to zero (off), then push the reset button on the bottom of the heater, See Diagram 1. If the High Limit continually shuts off the heater, refer to Section 14 for Troubleshooting.

## SECTION 9: HOW TO TAKE A SAUNA

- When taking a sauna, allow time to relax completely.
- Remove clothing and jewelry...if required, wear a towel loosely.
- After 10 minutes or when perspiration begins, leave sauna and relax in dressing area...follow with a cool shower.
- Cooling time should equal time spent in sauna. Enter sauna room again and stay 5 or 10 minutes.
- Repeat the cycle 2 or 3 times; end with a brisk shower...rinse in cool water.
- Dress when completely dry and perspiration has stopped.
- 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.
- 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.

## 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 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.
- 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.
- Minimum of R12 insulation in 16" on center 2x4 stud walls.
- Recommended minimum flooring thickness of 5/8"



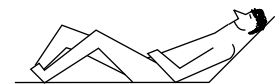
Shower



Sauna (10 - 15 min.)



Shower or swim



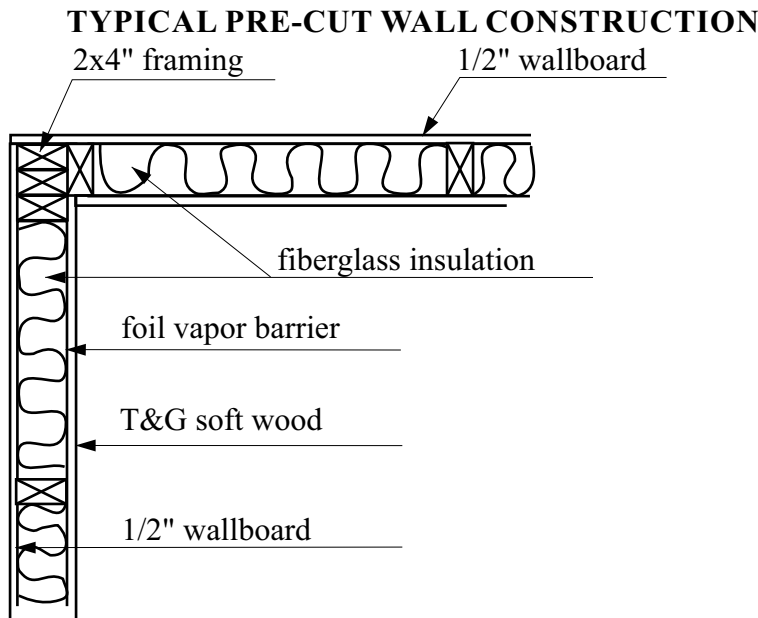
Rest (10 - 15 min.)



Relax with juice or water

You liked it?  
Do it once again and  
you will feel great.

**DIAGRAM 5**



**SECTION 12: VENTILATION**

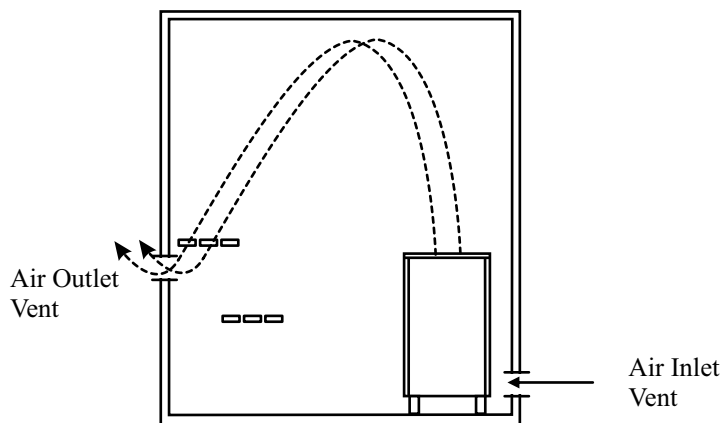
**VENTILATION** Ventilation shall be provided in a sauna, the air should be changed about 6 times an hour. This can be achieved by making a vent opening (fresh air inlet) in the sauna wall directly below the heater. The air outlet must be lower than the upper benches, as far as possible from the heater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

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

For  $R < 31$ ,  $V \geq 9.4$   
 For  $R \geq 31$ ,  $V \geq 0.3R$

R = the floor area of the room in square feet  
 V = the minimum vent size in square inches

**DIAGRAM 6**



*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.*

**SECTION 13: MAINTENANCE**

Inspect sauna room at the end of each day the room to ensure the control and system is off.

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.

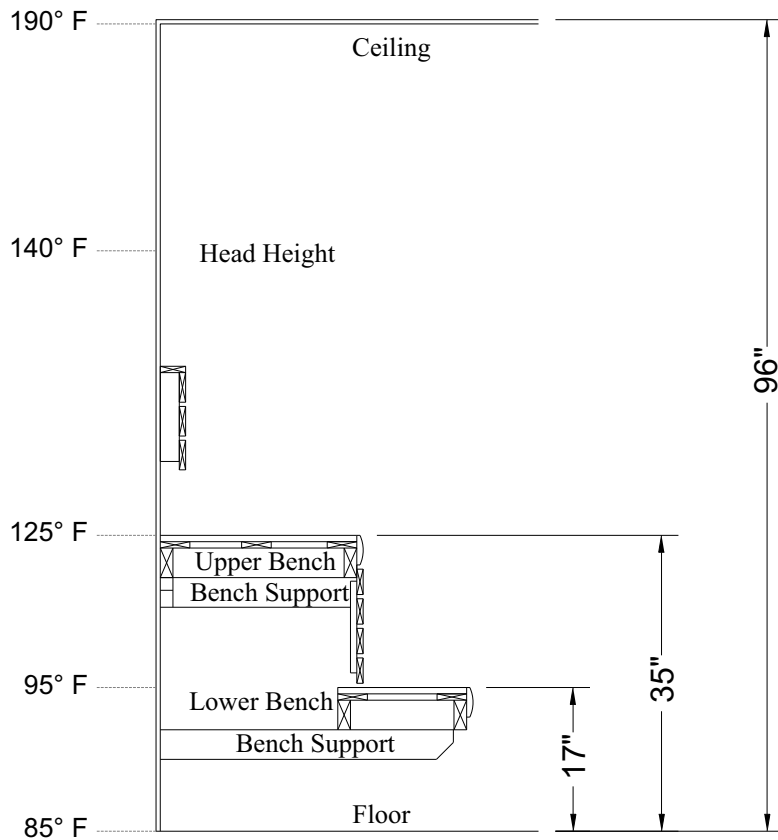
Air out the sauna often by keeping the door and vents open when the sauna is not in use. Saunas that are in daily use should be washed down at least once a week to keep them clean and the air fresh. Duckboard should be removed from the sauna, the sauna floor mopped and dried in a conventional manner,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



## DIAGRAM 7: ROOM TEMPERATURES



Non-Typical Ceiling Height

**Notes:**

Temperatures vary in a sauna room by height and distance from heater.

Ventilation will help reduce it but will not eliminate temperature variations.

The hottest part of the room is always at the ceiling directly above the sauna heater and should not exceed 194°F (90°C).

Air temperature will be 15°F to 25°F lower on the opposite side of the room from the heater close to the ceiling.

The temperatures in the elevated view are general numbers. Each sauna room is different due to construction variations and ventilation.

