

## Installation Manual

PP18SR-240, PP24LR-240, PP18SR-480, PP24LR-480

**THERMASOL**<sup>®</sup>

OVER 60 YEARS OF STEAM SHOWER INNOVATION

# Power Pak Series 3 Generator

# 1 Important Information Before You Install

**THESE WARNINGS ARE INCLUDED ON A PLACARD THAT MUST BE INSTALLED AT STEAM ROOM ENTRANCE. SHOULD YOU REQUIRE ADDITIONAL PLACARDS, PLEASE CONTACT THERMASOL: 800-776-0711.**

**PLEASE REVIEW THE WARNINGS BELOW AND LEAVE THIS MANUAL WITH THE FACILITIES DIRECTOR/MANAGER**

DO NOT USE THIS PRODUCT UNLESS YOU HAVE CONSULTED YOUR DOCTOR AND RECEIVED WRITTEN PERMISSION TO DO SO. USE OF THIS PRODUCT MAY BE HAZARDOUS TO YOUR HEALTH.

ENSURE THE CONSTRUCTION MATERIALS AND PROCESSES USED FOR THE STEAM ROOM ARE DESIGNED FOR THE STEAM ENVIRONMENT.

STEAM IS HOT! DO NOT TOUCH OR GO NEAR THE STEAM HEAD FROM THE TIME THE UNIT IS "ON" UP TO ONE HOUR FROM THE TIME THE UNIT IS "OFF". SEVERE BURNS WILL OCCUR IF YOU COME IN CONTACT WITH THE STEAM HEAD OR THE STEAM EMITTED FROM THE STEAM HEAD.

DO NOT USE THERMASOL AROMA THERAPY OILS, SKIN CARE PRODUCTS, OR ANY PRODUCT IN CONJUNCTION WITH YOUR THERMASOL UNIT WITHOUT CONSULTING YOUR ALLERGIST OR DOCTOR BEFORE USE. THESE PRODUCTS MAY BE HAZARDOUS TO YOUR HEALTH.

YOUR SHOWER MAY BE A SLIP AND FALL HAZARD. CHECK WITH YOUR CONTRACTOR OR TILE MANUFACTURER REGARDING THE SAFE USE OF YOUR FLOORING IN A STEAM APPLICATION. SLIPPING AND FALLING INTO THE STEAM HEAD ITSELF OR INTO THE STREAM OF STEAM EMITTED FROM THE STEAM HEAD WILL CAUSE SERIOUS BURNS OR PHYSICAL INJURY.

DO NOT USE A STEAM ROOM WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS, AS THIS CAN BE HAZARDOUS TO YOUR HEALTH.

IF YOU ARE FEELING UNCOMFORTABLE, DIZZY, FAINT, OR STARTING TO FALL ASLEEP, IMMEDIATELY EXIT THE STEAM ROOM.

DO NOT USE A STEAM ROOM IF YOU ARE UNDER THE AGE OF 16 UNLESS SUPERVISED BY AN ADULT.

THERMASOL GENERATORS ARE FOR INDOOR USE ONLY. THEY SHOULD NEVER BE LOCATED OUTSIDE THE HOME.

THERMASOL GENERATORS ARE NOT TO BE USED FOR SPACE HEATING PURPOSES.

FOR SAFETY, SMOOTH OPERATION PRACTICE AND LIABILITY. IF YOU ARE A PLUMBER/INSTALLER, PLEASE ENSURE THIS OWNER'S MANUAL & WARRANTY INFORMATION IS IN THE OWNER'S POSSESSION WITH SPECIFIC DELEGATION FOR THE PURPOSE OF COMPLETELY FAMILIARIZING ANY USERS WITH THIS PRODUCT.

FAILURE TO FOLLOW INSTALLATION INSTRUCTIONS WILL CAUSE THE WARRANTY TO BE VOID.

All products must be installed in accordance with the installation instructions provided. Failure to do so may invalidate the warranty at a manufacturer's discretion. ©2018 ThermaSol.

# 2 Sizing Your Steam Room

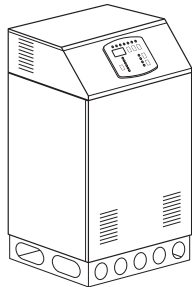
**Steam Room Size Formula: L X W X H = volume in cubic feet (ft<sup>3</sup>.)**

All measurements are to be in units of feet.

Model	Description	Total Room Volume: CF
PP18SR-240	PowerPak Series 3 Generator 18 kW, 240V	< 1000 Cubic Feet
PP24LR-240	PowerPak Series 3 Generator 24 kW, 240V	≥ 1000 Cubic Feet
PP18SR-480	PowerPak Series 3 Generator 18 kW, 480V	< 1000 Cubic Feet
PP24LR-480	PowerPak Series 3 Generator 24 kW, 480V	≥ 1000 Cubic Feet

For further assistance call toll-free: 800-776-0711.

# 3 Tools and Materials



Steam generator / built-in control



Steam room temperature sensor & 50 foot lead wire



Polished chrome steam head



Digital Timer and M8 Cable

**Materials needed:**

- Brass ball valve
- Pipe compound
- Copper or brass nipples  
(Size and quantities per instructions)
- 3/8" brass or copper union
- Wire  
(sizes and quantities per instructions)
- Copper tubing or pipe
- Wire cap nuts
- Flex conduit
- Brass or copper tee fitting & plug

**Tools needed:**

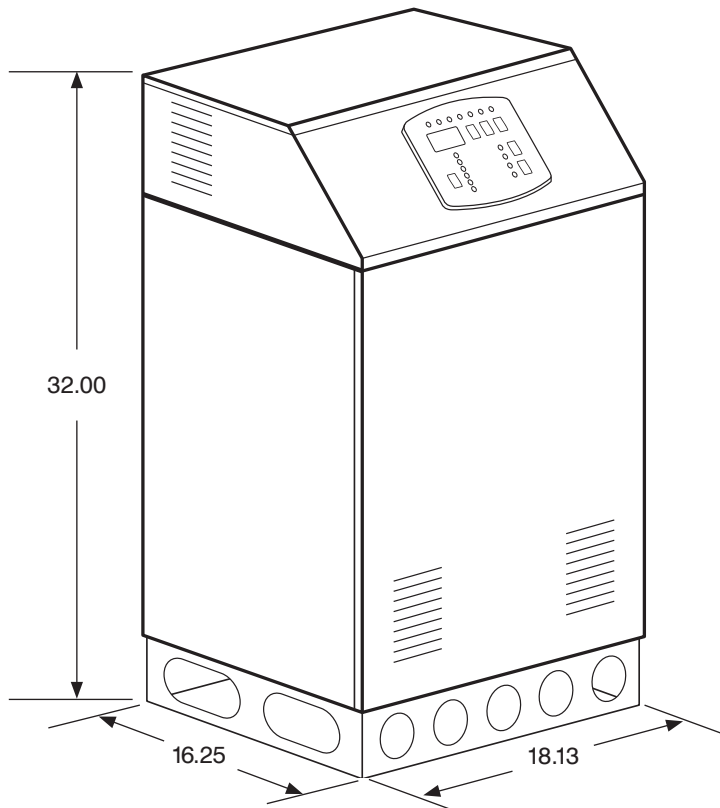
- Pipe wrench
- Tubing cutter
- Flaring tool  
(if flared fittings are used)
- Pipe thread cap
- Wire cutters or wire strippers
- Adjustable wrench
- Screwdrivers (philips & slotted)
- Solder & flux

- 3/16" & 1.5" masonry drill bits
- Drill motor
- Propane torch
- Other tools as required

Read the warnings on page 2. For illustrative purposes only. Consult with a qualified professional for steam room construction details.

# 4 Installation Requirements

1. Use copper or brass fittings only. NEVER USE GALVANIZED FITTINGS OR IRON PIPE!
2. The steam outlet is 1" NPT and requires brass unions.
3. The generator must be upright, accessible, and on a level surface. The access panel (top and front of the unit), must be unobstructed and allow for easy access.
4. Unit may be installed up to 50 ft. away from the steam room.
5. Do not plumb a trap in the steam line or plumb the pressure relief valve into the steam line. Do not plumb the steam line (pipe) up, down, then back up again. This will cause a steam trap.
6. If possible, pitch the steam line (pipe) back towards the generator or towards the steam head. Always avoid perfectly level plumbed lines.
7. Before connecting the water line to the generator, flush the water line into a five-gallon pail to remove any silt or other material that may be in the line. IMPORTANT - Not doing so may effect the water delivery to the unit.



Generator Dimensions

## CAUTION

If the unit is run without water, serious damage may result! This damage is not covered under ThermaSol's limited warranty.

**Note: Failure to follow specific installation instructions will cause the warranty to be void.**

## 5 Water Inlet Installation

### **NOTE**

All plumbing must be done per local plumbing codes and by a licensed plumbing professional.

1. Install a 3/8" ball valve to a COLD water line. Place the water pipe outlet within 6" of the labeled water inlet
2. Before making the last connection to the 3/8" water inlet line coming into the unit, flush the water line into a five-gallon pail to remove any silt or other material that may be in the line. **IMPORTANT** - Not doing so may effect the water delivery to the unit.
3. Make the final connection, then turn on the water. All ThermaSol generators are equipped with an automatic water fill system. The water will stop after unit is filled.
4. Thoroughly check for any leaks.
5. Max water pressure is 70 psi. Minimum water pressure is 40 psi.

# 6 Electrical Installation

**NOTE**

All electrical wiring must be done per local electrical codes and by a licensed electrical professional.

Wire sizes are recommended by National Electric Code. The minimum wire temperature rating is 90 °C.

Turn off all electricity to the working area at the main breaker panel prior to installation.

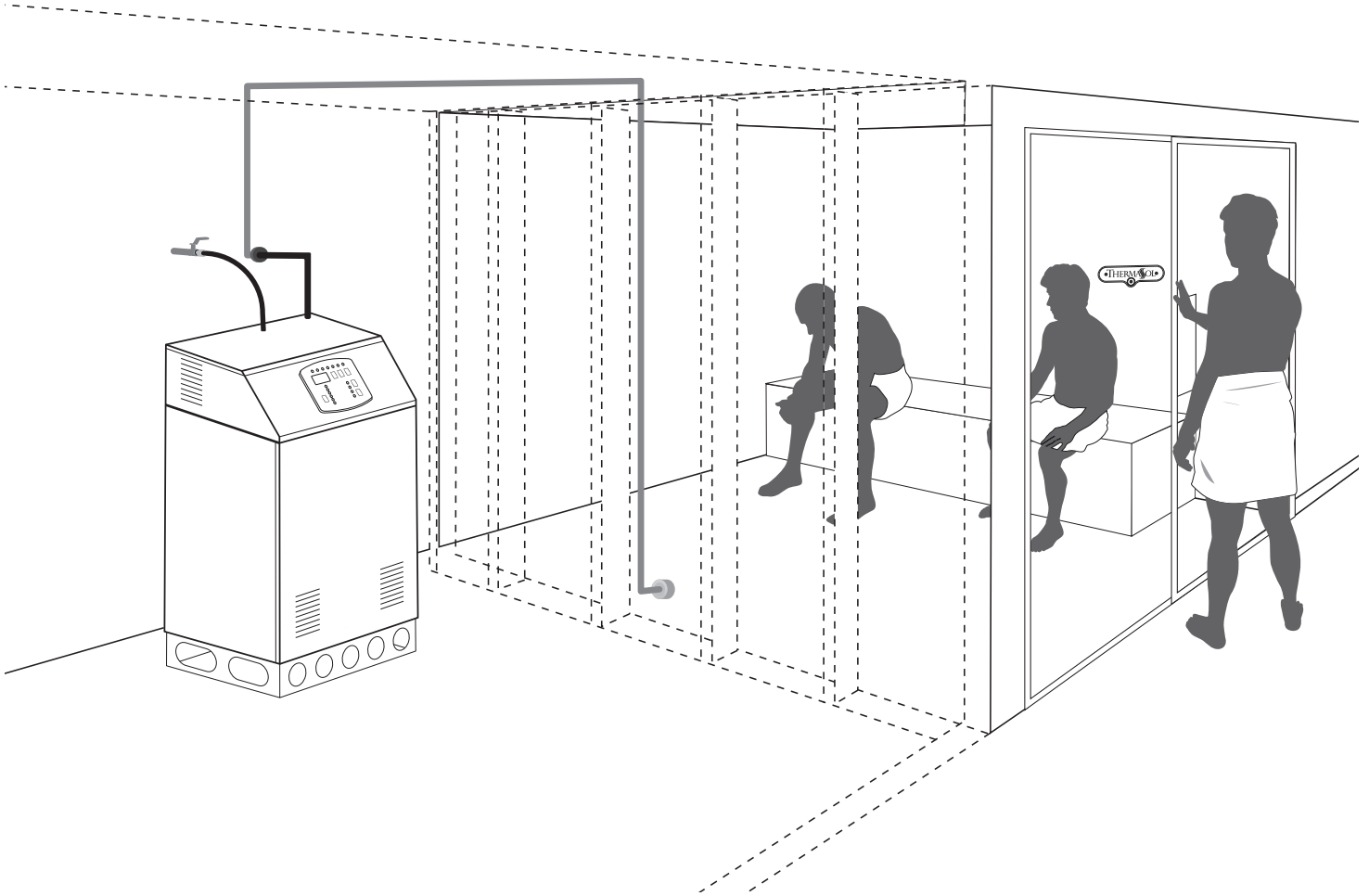
1. Have a licensed electrical professional connect the 240 or 480 VAC.

Model	Description	Volts	KW	Amps	Wire	Breaker	Phase	Room Volume
PP18SR-240	PowerPak Series 3 Generator 18 kW, 240V	208/240	18kW	44	6	60	3	< 1000 Cubic Feet
PP24LR-240	PowerPak Series 3 Generator 24 kW, 240V	208/240	24kW	58	6	70	3	≥ 1000 Cubic Feet
PP18SR-480	PowerPak Series 3 Generator 18 kW, 480V	480	18kW	22	6	30	3	< 1000 Cubic Feet
PP24LR-480	PowerPak Series 3 Generator 24 kW, 480V	480	24kW	29	6	40	3	≥ 1000 Cubic Feet

The system uses 4 conductor wires (3 phase and a ground).

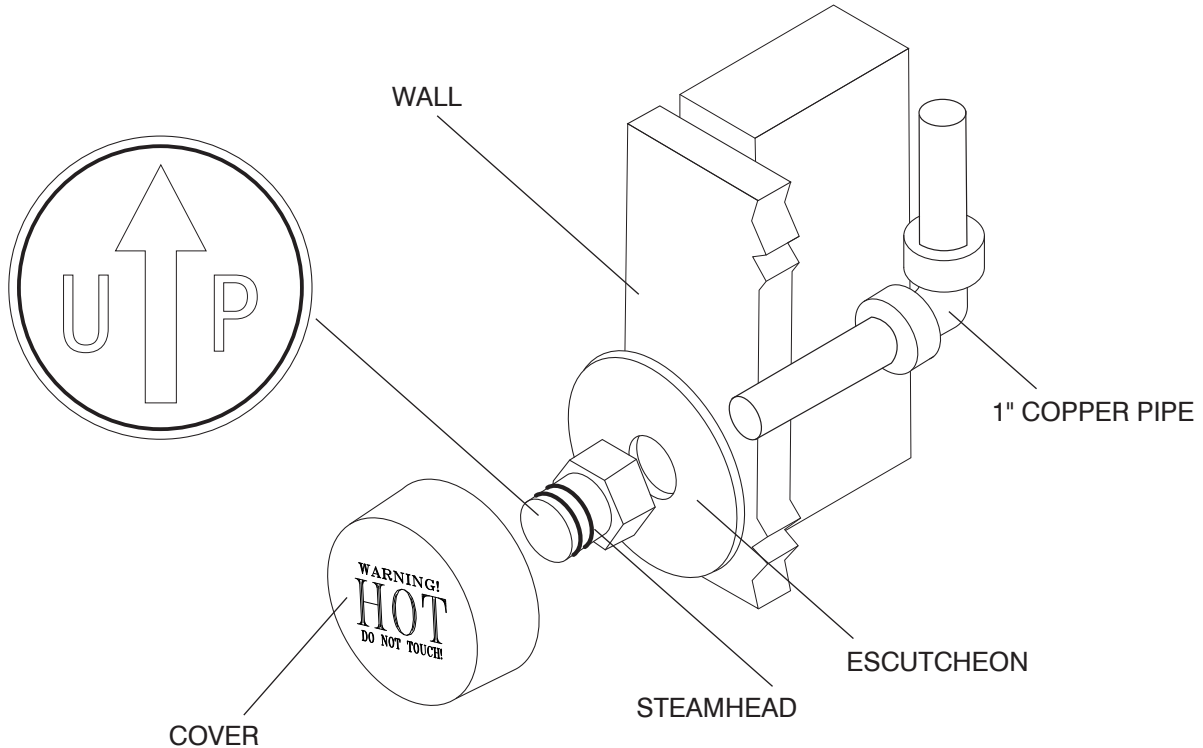
# 7 Steam Head Installation

Locate the steam head 6" from any corner, 12" from the floor, and as far away as possible from any bench, seat or door. The steam head is to be mounted as far away as possible from typical bathing positions (seated or standing) and as far away from the room temperature sensor as possible.



**PLEASE REVIEW THE WARNINGS ON PAGE 2 AND LEAVE THIS MANUAL WITH THE FACILITY DIRECTOR/MANAGER.**

1. Once a location is determined, drill a 1 1/2" diameter hole in the shower wall.
2. Connect 1" copper pipe or copper tubing onto the steam outlet of the generator with a 1" union. Run a 1" copper pipe from the union to the 1 1/2" hole into the wall. with 1/2 -1" of pipe protruding from wall.
3. Attach the steam head and escutcheon to the copper pipe. **CAUTION:** Do not obstruct the steam line with any shut-off valves, plugs, or caps. **NOTE:** Make sure the steam head **ARROW** is pointing **UP** as shown in the detail below.
4. Press the chrome cover over the steamhead with lettering "HOT" upright and readable.
5. The steam line (pipe) can run up, down, or horizontal it cannot run down and then up. If it does, a steam trap will be produced at the low point, blocking the flow of steam. Insulate the steam outlet piping if the piping run exceeds 10 ft. or is exposed to cold areas. **NOTE:** Use steam rated insulation (225 °F minimum).



**CAUTION**

Avoid contact with the steam head! It will burn you! Avoid direct contact with the steam coming out of the steam head! It is extremely hot! It will burn you!



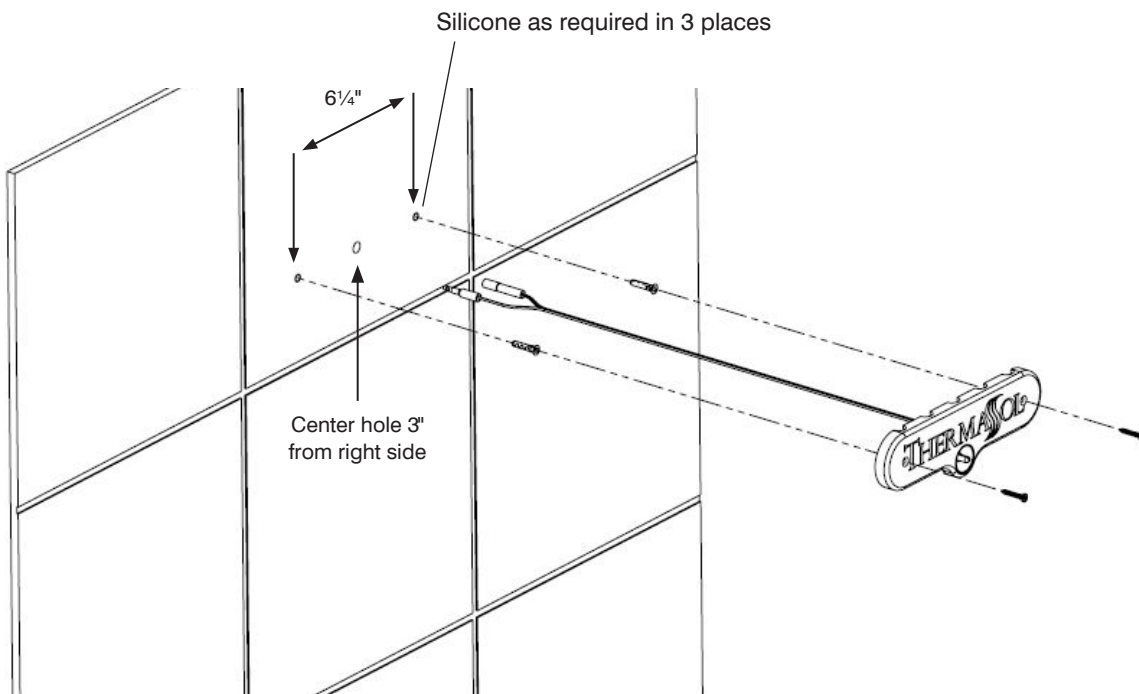
# 8 In Room Temperature Sensing Device Installation

## NOTE

DO NOT mount the sensor near the steam head!

1. Install the temperature control sensor with a bulb guard in the steam room 4 to 6 ft. above the floor. Drill two 1/4" holes for screw anchors and one 3/8" hole for the sensor wire located as shown below.
2. Bring the sensor wire to the temperature control sensor through the conduit and pass it through the 3/8" hole. Connect the control sensor wires using the bullet connections provided on the temperature control sensor and sensor wire.
3. Carefully feed any excess wire into the wall and silicone all holes with supplied silicone to ensure holes do not allow moisture to get from steam room into the wall.
4. Attach the temperature control sensor to the wall with the supplied fasteners. Take care not to over torque fasteners and damage screw anchors.
5. Do not staple temp sensor wires.
6. Locations near the steam room entrance/exit door are optimal.

**Failure to follow installation instructions may cause the warranty to be void.**



Read the warnings on page 2. For illustrative purposes only. Consult with a qualified professional for steam room construction details.

## 9 Outside Room Digital Timer Installation



### NOTE

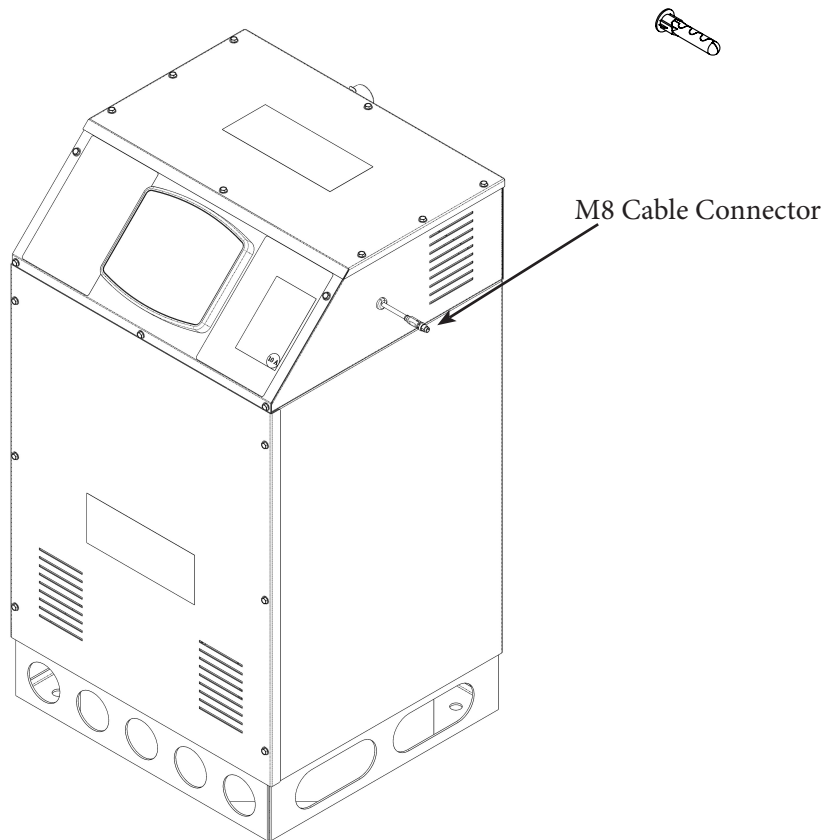
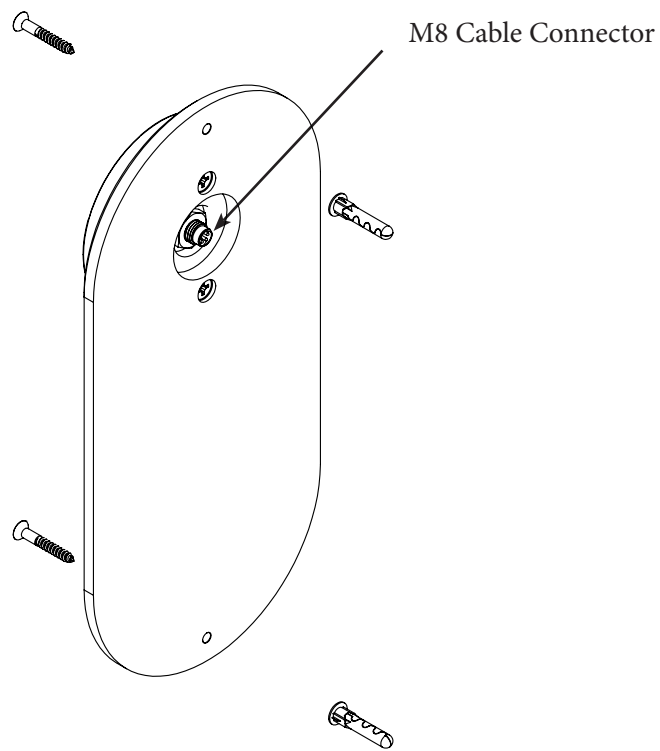
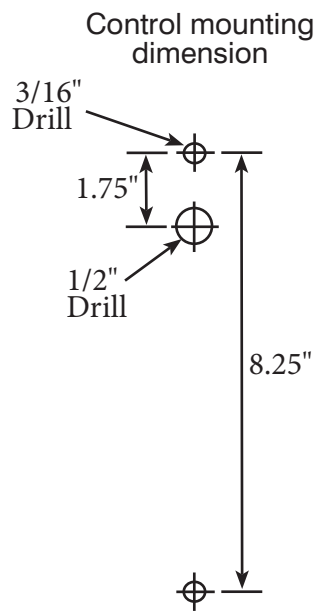
DO NOT mount inside the steam room.

1. Outside of the steam room door, install the digital timer device. This allows the generator, when the room is not occupied, to reduce the room temperature and save energy, and when a user activates it, it will produce steam to the set temperature of the master control.

**Note: After installation, you can override the timer with the main control panel. See pg. 12.**

2. Run the yellow M8 50' wire provided with the digital timer through conduit. Connect the M8 wire to the back of the digital timer device and the other end to the power pak.
3. Attach the 60-minute timer attach lead connections to the timer. Using the supplied screws with the timer box, screw the timer onto the single gang box.
4. Do not staple timer cable.

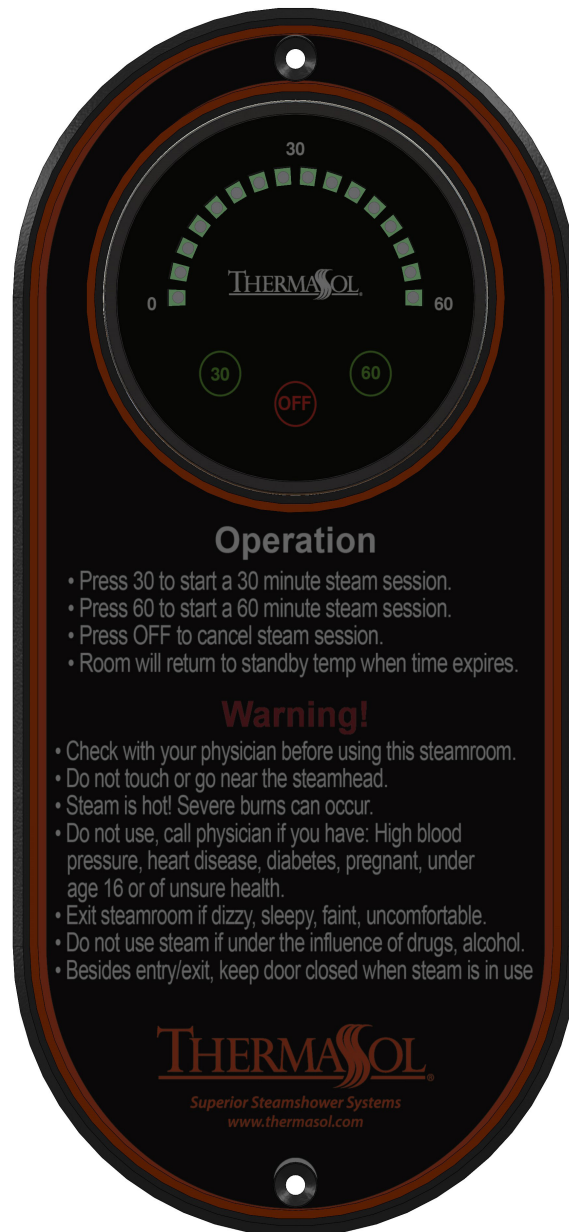
**Failure to follow installation instructions may cause the warranty to be void.**

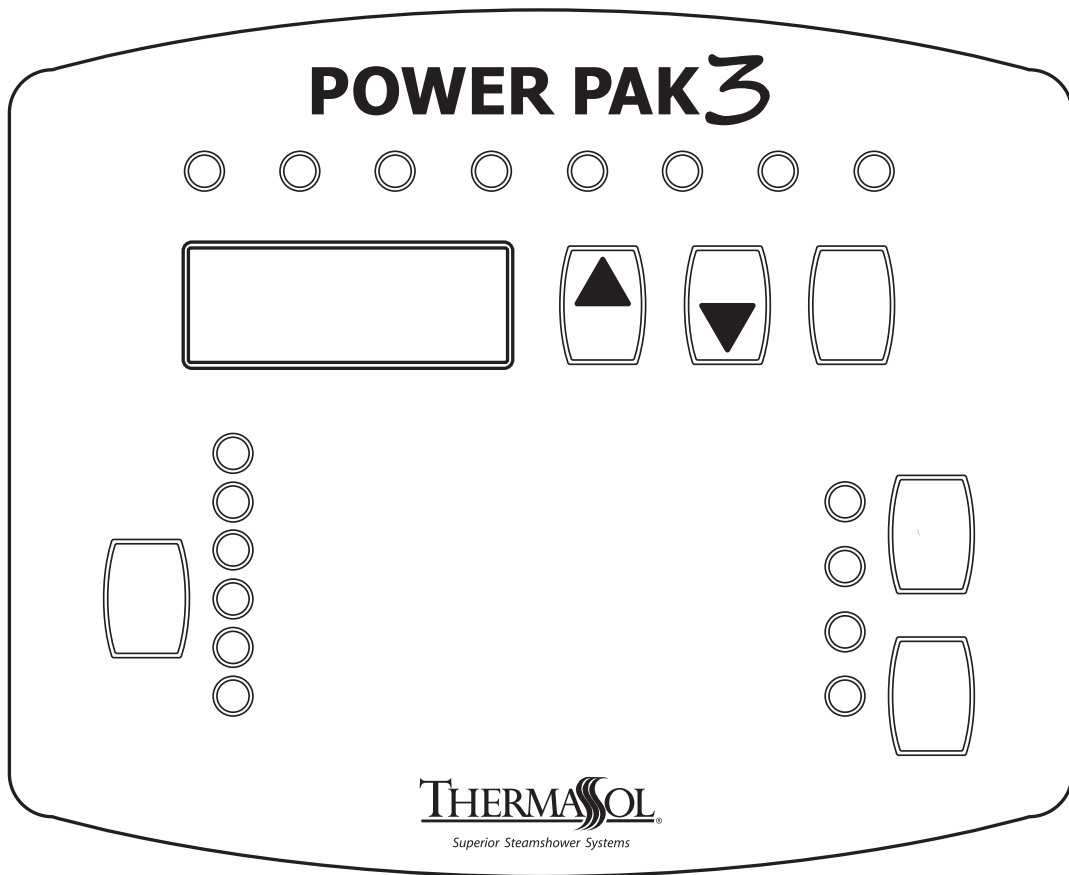


## Outside Room Digital Timer Operation

- Press 30 to start a 30 minute steam session
- Press 60 to start a 60 minute steam session
- Press OFF to cancel steam session

When the timer is off the room will remain at the standby temperature.





## Control Operating Instructions

**THERMA SOL**<sup>®</sup>

OVER 60 YEARS OF STEAM SHOWER INNOVATION

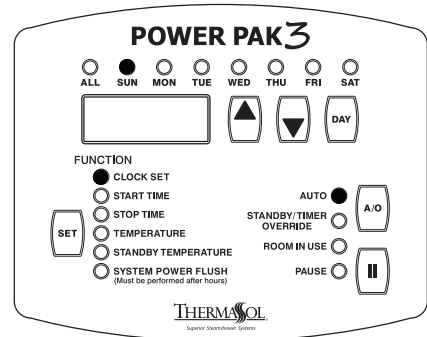
ThermaSol Power Pak Series 3

## NOTE

Before proceeding, make sure all water supply, steam, and pressure valve connections are complete and the water is turned on. Inspect for leaks and allow the tank to completely fill. Make sure no electrical shorts or exposed wires are present, the generator is connected to power, and the breaker is on.

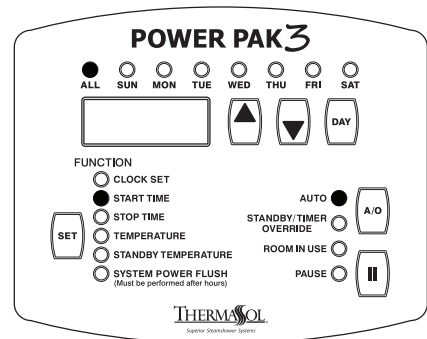
### 1. CLOCK SET

Ensure the electrical/plumbing installation is complete. Turn on the power to the unit at the breaker/disconnect box. The display will reset to 00:00 and then display the current time of day. If the time and/or day of week are not correct, press the DAY or UP/DOWN button to get to the set clock menu. The CLOCK SET LED will start blinking. Press the day to adjust the correct day of the week. Press UP or DOWN to adjust the time. After 5 seconds, the system will accept this as the valid time. You can also press the SET button to accept. The time displayed is a 24-hour clock while the day of the week is marked by an LED next to the DAY label.



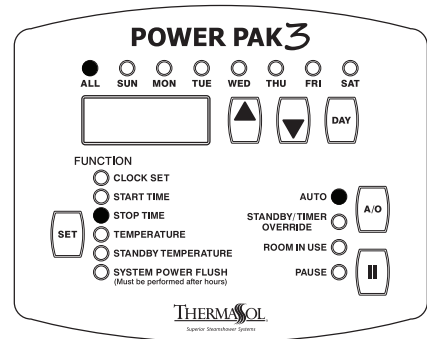
### 2. START TIME

Now you will set the steam START TIME. Press the SET button once. You should see the light next to the START TIME come on and a red light next to ALL. The ALL feature sets the start time for all 7 days. This saves time on entering redundant information 7 times. Using the DAY button, you can customize the availability of steam and individually change the start time on specific days. Press UP or DOWN once to enter the START TIME change menu. The LED will start blinking. The system comes from the factory with default values of 7:00 start time for all seven days. Using the arrows, set the time you want the steam to be available on that day.



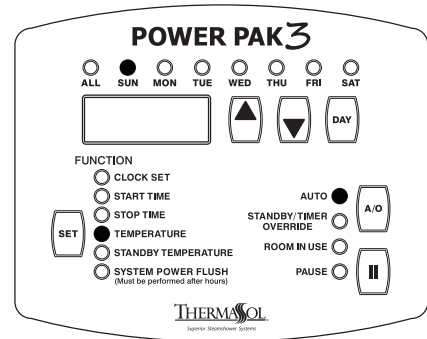
### 3. STOP TIME

Next, set the steam STOP TIME using a similar method as the START TIME. Press the SET button once. You should see a light next to the STOP TIME. Press UP or DOWN once to enter the STOP TIME change menu. The LED will start blinking. Using the arrows, set the time you want the steam to stop for that day. Note that you are either programming a specific day or ALL (1 full week). If ALL was the day configured, the settings will be applied to all 7 days. If there is a need to modify specific days, press DAY to move to the desired day to modify the time settings.



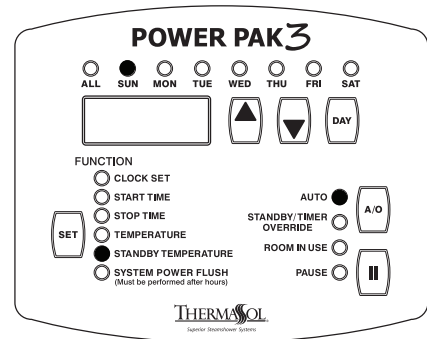
## 4. TEMPERATURE

Pressing the SET button will let you see the current steam room temperature and enable you to configure the temperature set point. Upon a first press of UP or DOWN, the function LED will start blinking and the set point will be displayed. Using the arrows, set the temperature you want to be stored as the set point. The generator will use this temperature as a threshold for maintaining and keeping the steam room at the constant desired temperature. This temperature is applied to all 7 days of the week.



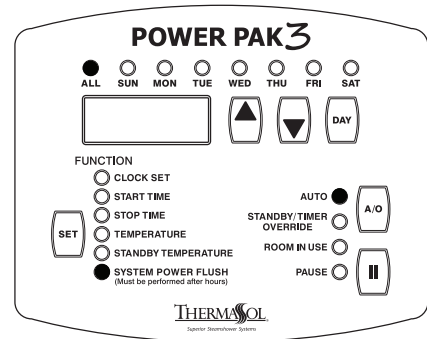
## 5. STANDBY TEMPERATURE

Pressing the SET button will let you see the standby steam room temperature and enable you to configure it. Upon a first press of UP or DOWN, the function LED will start blinking and the standby temperature will be displayed. Using the arrows, set the temperature you want to be stored as the STANDBY TEMPERATURE. In auto mode, the generator will use this temperature for keeping the steam room at the constant desired temperature when the steam room is not occupied or the mechanical timer is off. This temperature is applied to all 7 days of the week. If the unit is in override mode, this setting is ignored.

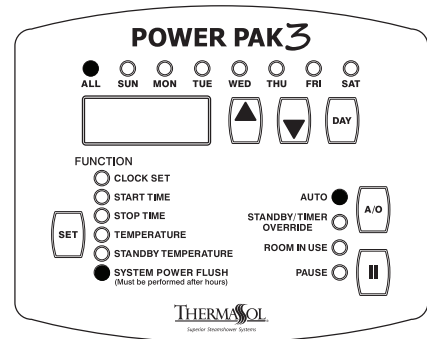


## 6. SYSTEM POWER FLUSH

Pressing the SET button once again will enable you to set the SYSTEM POWER FLUSH availability time. You should see the light next to the power flush time come on and the display will show the power flush time for the configuration day. Using the arrows, set the time you want the flush to be available for that day from now onward, press the DAY button for each day, and using the arrows to set the time you want the unit to begin its power flush cycle. Once again, the use of ALL for the day will apply the setting to all 7 days, while pressing the DAY button will allow you to modify the time for any specific day. The power flush stops automatically at the end of its cycle (approximately 45 minutes). The power flush start time can occur before start time (00:00 midnight with a 07:00 start) or after hours (20:00 stop time and a 23:00 power flush start).



7. Pressing the SET button once again will display the days remaining until the next actual power flush cycle is to commence. It will also display the day of the week this event is scheduled to occur. This figure is a function on the set interval requested and the actual usage of the steam room. In order to change the desired interval while in this mode press and hold the SET button for 5 seconds. The SET LED will start blinking. Press the UP or DOWN buttons to adjust the required interval. This interval is a function of water hardness and condition. It will be adjusted for optimum conditions by a qualified user or by the ThermaSol customer service representative.



# Controller Notes and Tips

- The system will revert to displaying the current time and day after 1 minute of no button activity. The SET button is used to select between various display settings.
- The ALL feature is extremely useful, as it enables the ability to quickly set START, STOP, and SYSTEM POWER FLUSH times for all 7 days. Then, on days such as weekend days, the user can modify only those days—eliminating the need to enter redundant information.
- The START, STOP, and SYSTEM POWER FLUSH times are related to each other automatically. The system is shipped from the factory with default values of 7:00 START, 20:00 STOP, and 23:00 POWER FLUSH for all 7 days. The user can always revert (reset) back to these original factory defaults by pressing and holding the UP and DOWN buttons simultaneously from the diagnostics menu for 5 seconds.
- If the START TIME reaches the STOP TIME, the system will automatically fix that by pushing the STOP TIME forward. Similarly, if the STOP TIME reached the START TIME, it will attempt to push the START TIME backwards (if possible) until reaching 00:00. If both times reach within 5 minutes of the Power Flush time, the system will try to jump to 50 minutes past the SYSTEM POWER FLUSH time, if it is unsuccessful, it will maintain the previous settings.
- The system supports temperature in both Fahrenheit and Celsius with a default factory setting of Fahrenheit. To change the units to Celsius, press the SET button until you reach the temperature menus. Press and hold the SET button for 5 seconds and release and the temperature format will change.
- The AUTO/OVERRIDE mode button overrides the STANDBY TEMPERATURE such that the room will be maintained at the temperature set point as long as the remote timer is ON. The Steam generator will be completely off when the remote timer is in the OFF position. To switch to override mode, simply press the AUTO/OVERRIDE button and the OVERRIDE LED will light up. To switch back to AUTO/STANDBY mode, simply press the AUTO/OVERRIDE button again, the AUTO LED will light.
- The system is equipped with special diagnostics features that are accessible using the diagnostics menu. From the START or STOP menus, press and hold the SET button for 5 seconds. The display will then show and cycle between the following screens.

F xx	Firmware of Control
P xx	Firmware of Power Pak Generator
U xxx	Supply Voltage
xyza	Total Lifetime Hours of Steam Generation (increments of 10 hours)
xyza	Total Number of Power Flush Cycles Completed
xyza	Total Number of Power Flush Cycles Attempted

- The system is equipped with an error messaging system. Upon a system malfunction, an error message will be displayed with the following code numbers:

E80	Tank Overpressure Error	E121	Room Temp Sensor is open / disconnected
E90	Over Temperature Error	E122	Temp Control Error
E91	Low Water Error	E190	Stuck Button Error (Down)
E95	Low AC Voltage Error	E191	Stuck Button Error (Manual)
E96	High AC Voltage Error	E192	Stuck Button Error (Up)
E97	Tank Temp is too high or bad (shorted) sensor	E193	Stuck Button Error (Function)
E98	Temp Sensor low/disconnected Error	E194	Stuck Button Error (Pause)
E99	Communication Error	E195	Stuck Button Error (Day)
E100	Lost Communication with Generator	E196	Gen Error
E120	Room Temp Sensor is shorted		

Read the warnings on page 2. For illustrative purposes only. Consult with a qualified professional for steam room construction details.



# Power Pak Series 3 Warranty

**There is a 18-month warranty from date of purchase for Power Pak generators on all parts found to have a manufacturing defect and labor required to replace those parts.**

## EXCLUSION

- I. This service warranty does not cover: parts or products damaged in shipment; manufacturing defects observable prior to installation; parts or products damaged during installation; malfunction of equipment due to improper installation or installation not according to manufacturer specifications and/or installation instructions; parts or product installed in a manner that does not permit proper access to service; calcification build-up due to water conditions and/or improper maintenance; damages to plated parts and accessories due to chemical corrosion or reactions; cosmetic damage; repairs caused by accident; neglect, misuse, vandalism, fire, lightning, earthquake, or any other peril; and unauthorized and/or improper modification or damage to structure or facility. The Customer at the current labor and material charges shall pay any repair or installation modification that is subject to the above exclusions in effect at the time.
- II. THERMASOL will exercise reasonable efforts in rendering services under this warranty, but shall not be liable for any damage arising out of delays. This warranty only covers the repair and/or replacement as specified by the warranty.
- III. This warranty gives you specific legal rights. You may also have other rights, which may vary from state to state. Determination of rights under this warranty is in accordance with the laws in the state of Texas. Any dispute under the warranty must be submitted and resolved by arbitration in Texas.
- IV. THERMASOL does not guarantee that a local service person will be available. The unit may have to be removed and reinstalled at owner's expense. It is the responsibility of the buyer to file a claim with the carrier for any product that has shipping damage to or from THERMASOL. An RMA (Return Merchandise Authorization) must be obtained from the factory and used on any correspondence or packages sent to the factory. THERMASOL, 1958 Steam Way, Round Rock, TX 78665 800-776-0711

## TERMINATION

This warranty will be terminated by THERMASOL for the following reasons: Improper installation or use; service to equipment by unauthorized personnel; installation that does not permit proper access for service; non-payment of repairs not covered under warranty; and non-remittance of completed warranty card. Modification to the unit is not authorized by THERMASOL nor is use of non-THERMASOL repair parts.

NAME OF FACILITY: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

PHONE: ( ) \_\_\_\_\_ EMAIL: \_\_\_\_\_

**I first heard about THERMASOL** (please check one)

Magazine/Newspaper Ad     Consumer Trade Show     The Dealer or Outlet Where I Purchased Generator     Website     Other

SERIAL NO: \_\_\_\_\_ MODEL: \_\_\_\_\_

DATE OF PURCHASE: \_\_\_\_\_ DEALER/OUTLET: \_\_\_\_\_

INSTALLER ADDRESS: \_\_\_\_\_

CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

CUSTOMER SIGNATURE: \_\_\_\_\_ DATE INSTALLED: \_\_\_\_\_

**The generator is working** (please check one)     Satisfactory     Unsatisfactory

COMMENTS: \_\_\_\_\_

# THERMASOL<sup>®</sup>

*Superior Steamshower Systems*



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