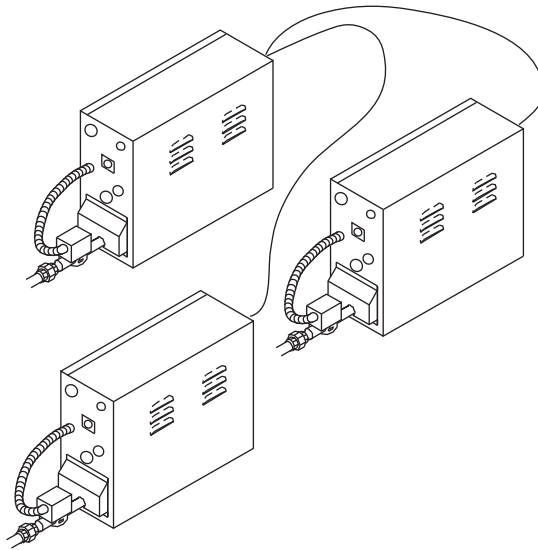


(1) T100 Control plus
(2) or (3) AT or 3T
Steam generators



AMEREC STEAMBATH GENERATOR SYSTEMS FOR USE WITH SYSTEMS INCORPORATING ONE T100 CONTROL, ONE AT OR 3T “MASTER” STEAM GENERATOR AND ONE OR TWO AT OR 3T “SLAVED” GENERATOR(S)

STANDARD MODELS CONSIST OF

- AT17 = AT 10 + AT7 + T100 CONTROL KIT
- AT20 = AT 10 + AT10 + T100 CONTROL KIT
- AT30 = AT 10 + (2) AT10s + T100 CONTROL KIT
- 3T20 = 3T 10 + 3T10 + T100 CONTROL KIT
- 3T24 = 3T 12 + 3T12 + T100 CONTROL KIT
- 3T28 = 3T 14 + 3T14 + T100 CONTROL KIT
- 3T36 = 3T 12 + (2) 3T10 + T100 CONTROL KIT

Other system configurations may be available.

Contact technical support for further information: 1-800-363-0251

Save these instruction! Read all instructions carefully before installation!

POST ‘WARNING’ LABEL OUTSIDE STEAMBATH FOR SAFETY WARNINGS! POSTING ON OR ADJACENT TO THE DOOR OF STEAM ROOM IS REQUIRED FOR ALL COMMERCIAL INSTALLATIONS!

SECTION 1: GENERAL INFORMATION

Amerec Steam Generators are listed by ETL. The generators come assembled and ready for installation. Check that the size and rating of the generators are suitable for your application; refer to Steam Room Construction and Generator Sizing Guide (Amerec document 4211-33).

Amerec AT and 3T Steam Systems consist of one AT or 3T generator acting as a “master” generator which may control one or two other AT or 3T slaved generators. The sole purpose of ganging generators is to increase the volume of steam generated without using multiple controls. The master generator controls the slaved generator(s) through the cable(s) provided.

IMPORTANT

An exhaust fan installed outside the steam room is strongly recommended to remove excess steam from the bathroom or shower area.

WARNING

Electrical grounding is required on all Steam Generators.

All electrical supplies should be disconnected when servicing a Steam Generator.

All wiring must be installed by a licensed electrical contractor in accordance with local and national codes.

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

Generators are for indoor use only.

Generators are not for space-heating purposes.

Be certain that steam bath enclosures are properly sealed to avoid water damage from escaping steam. It is recommended that 100% silicone caulk be used to seal all pipes and fittings. Steam must be prevented from escaping into the wall cavity.

Never shut off the water to an appliance that is in use.

*Electric Shock Hazard
High Voltage exists within this equipment.
There are no user serviceable parts in this equipment.*

WARNING

REDUCE THE RISK OF OVERHEATING AND SCALDING

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

CAUTION! Do not contact steam head. Stay at least 12" away from hot steam escaping from the steam outlet.

REDUCE THE RISK OF SLIPPING AND FALL INJURY

Use care when entering or exiting the steam room, floor may be slippery.

NOTE: For additional safety instructions, see owner's manual.



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IMPORTANT SAFETY INSTRUCTIONS

READ AND FOLLOW ALL INSTRUCTIONS.

WARNING - To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

WARNING - To reduce the risk of injury:

- a. The wet surfaces of steam enclosures may be slippery. Use care when entering or leaving.
- b. The steam head is hot. Do not touch the steam head and avoid the steam near the steam head.
- c. Prolonged use of the steam system can excessively raise the internal human body temperature and impair the body's ability to regulate its internal temperature (hyperthermia). Limit your use of steam to 10 - 15 minutes until you are certain of your body's reaction.
- d. Excessive temperatures have a high potential for causing fetal damage during the early months of pregnancy. Pregnant or possibly pregnant women should consult a physician regarding correct exposure.
- e. Obese persons and persons with a history of heart disease, low or high blood pressure, circulatory system problems, or diabetes should consult a physician before using a steambath.
- f. Persons using medication should consult a physician before using a steambath since some medication may induce drowsiness while other medications may affect heart rate, blood pressure and circulation.

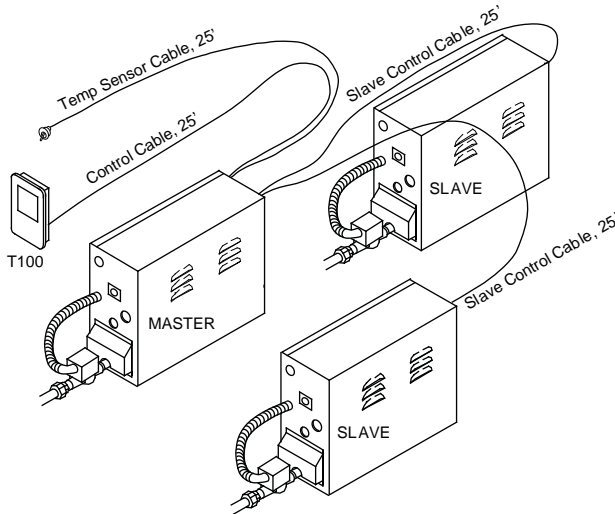
WARNING - Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6°F. The symptoms of hyperthermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness and fainting. The effects of hyperthermia include:

- a. Failure to perceive heat
- b. Failure to recognize the need to exit the steambath
- c. Unawareness of impending risk
- d. Fetal damage in pregnant women
- e. Physical inability to exit the steambath
- f. Unconsciousness

WARNING - The use of alcohol, drugs or medication can greatly increase the risk of hyperthermia.

SAVE THESE INSTRUCTIONS

DIAGRAM 1



WARNING

Do not mount outdoors.
 Protect from freezing.
 Unit must be located so as to allow access for service.
 The steam generator will not operate properly unless it is mounted level with the arrows pointed up.

IMPORTANT

Before deciding on a mounting location, please read through these installation instructions completely and take a careful look at all of the diagrams.

An exhaust fan installed outside the steam room is strongly recommended in order to remove excess steam from the steambath or shower area

It is strongly recommended that no exhaust fan be installed inside the steam room. Doing so will result in a loss of heat and steam through the exhaust fan and port.

Insulate all steam lines and drain lines within the enclosed space.

Each generator must be provided with at least six (6) inches for wiring access at the control wiring end.

Each generator must be provided with at least fifteen (15) inches clearance at the pipe end.

There should be at least thirty-six (36) inches in front of the louvered cover at each generator for service access.

SECTION 2: SELECT MOUNTING LOCATION

The Amerec Steam Generator can be hung on a wall or set on its base. The best mounting location will satisfy all or most of the following conditions:

1. The steam line should slope to allow condensation to drain into the steam room.
2. The steam line should be less than 20 ft long. Ten feet is preferred. Steam lines over 20 ft long should be insulated.
3. The mounting location should minimize the number of bends and elbows in the steam line.
4. The steam line should enter the room 18" above the floor or at least 12" above a tub rim or ledge.
5. No steam head shall be more than thirty (30) inches above the floor.
6. The steam outlet should be located to avoid potential user contact.
7. The generators should be installed in a dry, well ventilated area. The space provided should be at least:
 - 7 cu ft for one generator or 17 cu ft for two generators or 27 cu ft for three generators

Suggested locations are under a vanity, in a closet, attic, crawl space or basement. Preferably in the same room. **Note:** *The generator must be in an area protected from freezing.*

8. The slave generators should be installed within a 25 foot cable length of the master generator and the master generator should be within a 25 foot cable length of the T100 control installation. See diagram 1.

Note: *Longer control and slave cables are available. Contact Technical Support at 1-800-363-0251 or support@amerec.com for assistance.*

9. The installation should provide clearance for service and element removal. See diagram 3.
10. The mounting location should allow for a drain hookup. There should be no more than three 90° bends and 10 ft of pipe between any generator's drain outlet and its drain valve inlet. See diagram 15.

SECTION 3: MOUNTING THE GENERATORS

IMPORTANT: The generator must be level side to side and end to end after installation.

Wall Mounting:

Note the location of the mounting holes on the back of the steam generator. The screws must set directly into studs or equivalent supports, Drill pilot holes on 12" centers and on level (see diag. 2 at right) then install the two #10 1-1/2" screws provided.

Carefully hang the generator on the two screws. Tighten the screws. Replace the front cover. Secure the front cover with its four sheet metal screws.

Floor Mounting:

In general, the width of the generator allows it to sit on a shelf, across ceiling joists or on a floor. The generator must be on a flat surface and restrained from moving. Normally, the piping will provide adequate support but if not, additional support must be provided.

All floor mounted generators must have provision for routine draining of the steam tank.

DIAGRAM 2

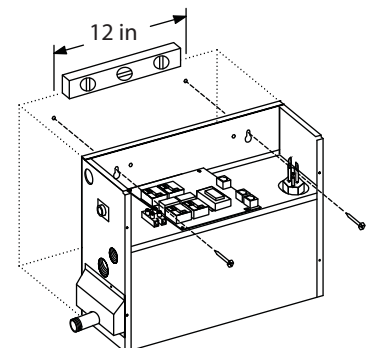


DIAGRAM 3: SERVICE CLEARANCE

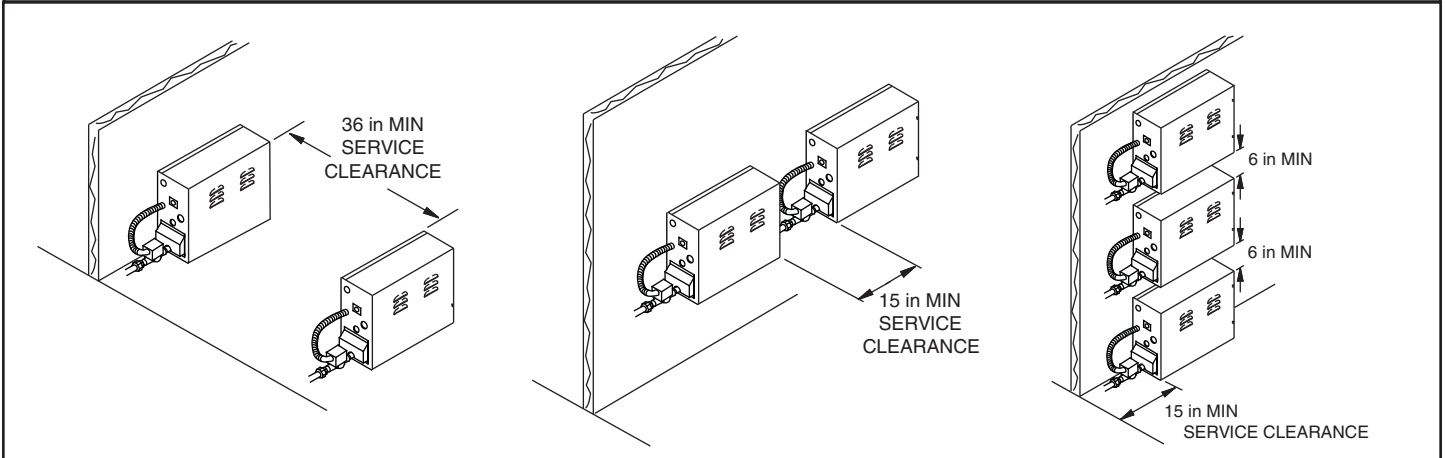


DIAGRAM 4

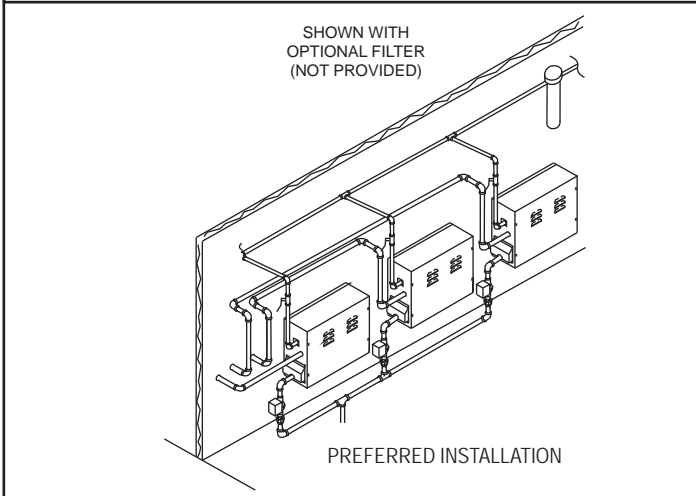
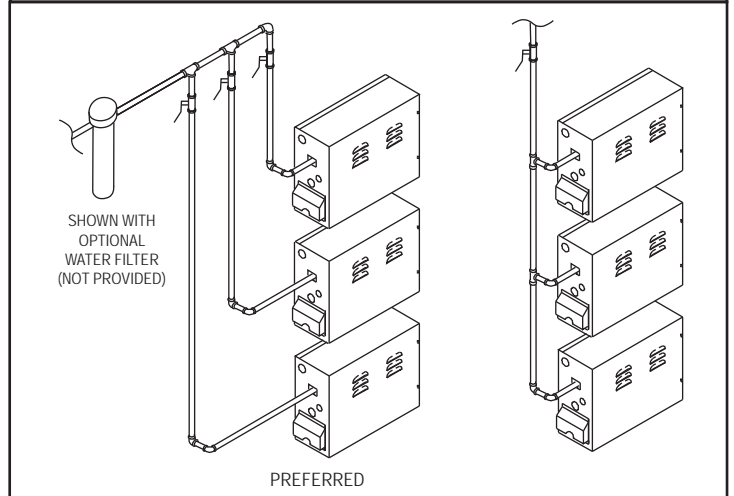


DIAGRAM 5: WATER LINES



SECTION 4: PLUMBING THE GENERATORS

All plumbing shall be installed by a licensed plumber and conform with local and national codes.

Materials (locally available):

- 3/8" O.D. copper tube, shut off valves and compression to 3/8" male NPT adapter for the water supplies to the generators.
- 1/2" copper pipe and unions for the steam lines to the steam rooms and the tank drains.
- 3/4" copper pipe, fittings, and a union for the Pressure Relief Valve drain.
- Tube 100% silicone caulk.
- Pipe compound.

Note: other materials may be required.

1. INSTALL WATER LINE See diagrams 4 and 5.

Run 3/8" copper tube between the nearest cold water line and the WATER INLET fitting on the generator. Locate a shut-off valve near the generator. Connect this line to the generator with a 3/8" compression adapter. When tightening this fitting always use two wrenches so there will be no strain on the water inlet valve. For better servcability, use a separate shut-off valve for each generator. See diagrams 3 and 4.

2. INSTALL STEAM LINE See diagrams 4 and 6.

At the Generator: Install a 1/2" male NPT sweat adaptor into the generator's steam outlet. Install a 1/2" union in the steam line near the generator. Run the 1/2" steam line from the generator to the steam room. Refer to SECTION 2: SELECT MOUNTING LOCATION.

The steam line should enter the room 18" above the floor or at least 12" above a tub rim or ledge.

IMPORTANT

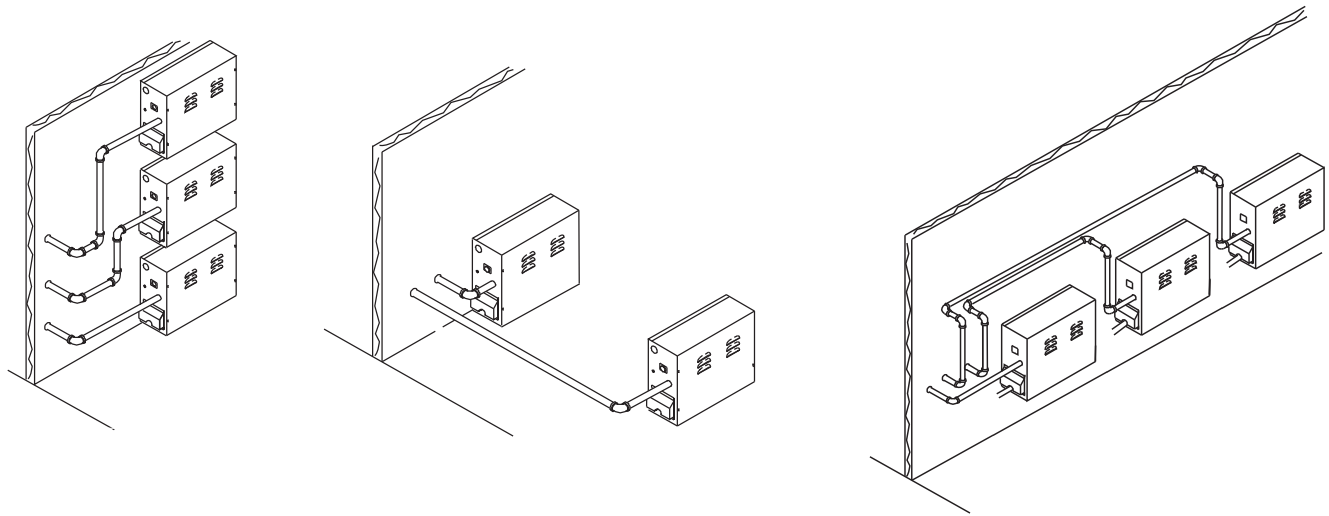
Maximum recommended input water pressure not to exceed 100 PSI.

If the generators are mounted in a place difficult for the home owner to access, the water supply shut-off valve should be located where it can be quickly accessed in an emergency.

Do not use a saddle valve or saddle fitting for the water shut-off valve.

Flush water supply line before final hookup.

DIAGRAM 6: STEAM LINES



SECTION 4: PLUMBING THE GENERATORS (continued)

2. INSTALL THE STEAM LINE (continued)

In the steam room: Drill/prepare a 1-3/8" dia. hole for the steam line entry. Center the 1/2" copper steam pipe in the 1-3/8" hole. See diagrams 7 and 8.

Terminate the steam line with a 1/2 NPT male adaptor. Stub the finished line out into the room 3/8" from the finished surface.

Secure the steam line to a structural member.

3. INSTALL THE STEAM HEAD See diagrams 7, 8 and 9

Install the steam head insulator

Fill in the gap between the steam pipe and the finished wall using 100% silicone caulk.

Apply silicone to the wall side of the steam head insulator and screw the insulator onto the steam line threads, hand tight, until it is flush against the finished wall with its opening facing down. If hand tight does not result in the opening pointing down, use Teflon tape on the steam line's thread to adjust the fit.

Mount the steam head

Slide the steam head onto the insulator until it rests firmly against the finished wall. Tighten the hex head screw in the bottom of the steam head to secure it in place using the hex wrench, provided.

The steam head should be level with its fragrance reservoir at the top.

5. INSTALL THE AUTOMATIC DRAIN VALVE AND DRAIN LINE See examples in diagram 10.

The AT and 3T generators are provided with an electric drain valve to provide automatic draining and rinsing of the steam tank after each steam bath. This can greatly extend the life of the steam generator, particularly in areas with hard water. This valve must be installed within three feet of its generator.

1. Install the 3" nipple (provided) into the generator's drain outlet then mount the drain valve to this nipple with its conduit fitting pointing away from the generator. Notes: *Conduit must be used in order to ground the valve! The valve may be installed with either end towards the generator; select the orientation which provides the best routing for the valve's wiring conduit. No drain line should have more than three (3) 90° bends (elbows or tees) between the generator and its drain valve.*

2. Use a 1/2" NPT close nipple to connect a 1/2" NPT Union onto the valve's outlet.

3. Run a 1/2" drain line from the valve's union to a suitable drain according to national and local codes. This is a gravity flow drain so all drain lines must be sloped away from the generator towards the drain.

Notes:

Drain lines may be ganged together only AFTER each individual drain valve.

The drain must be constructed of materials capable of withstanding water at 212°F (100°C) and be constructed according to local and national codes. Water at this temperature will present a scald hazard!

Do Not run the drain into a shower or steam room or other area where someone may come into contact with drain water without warning. This may present a scald hazard and may damage the shower or steam room.

WARNING

Do not put a shut-off valve in the steam line!

To reduce the risk of explosion, do not interconnect steam outlets!

A separate line must be provided for each steam outlet.

Avoid traps and valleys where water could collect and cause a steam blockage.

The hot steam must be insulated against user contact. Install the steam head so as to avoid potential user contact.

Do not install the steam head near benches or where condensation will drip on the user or puddle as this will present a scald hazard.

The pressure relief valve must be installed in such a manner that the risk of scalding is reduced to a minimum. Draining the pressure relief valve into the steam room may present a scald hazard.

IMPORTANT

The steam pipe entry into the steam room and the steam head must be caulked to avoid damage caused by steam leakage into the wall.

Centering the steam pipe is critical through walls made of plastic, acrylic, resin, fiberglass, or similar materials. Allowing the pipe to touch the materials not rated for 212°F (100°C) or higher will result in damage to these materials.

If the steam line is in an area where the temperature will be below 40°F or if the line is more than 20 feet long, best results can be obtained by insulating the steam line.

DIAGRAM 7: INSTALLING THE STEAM HEADS

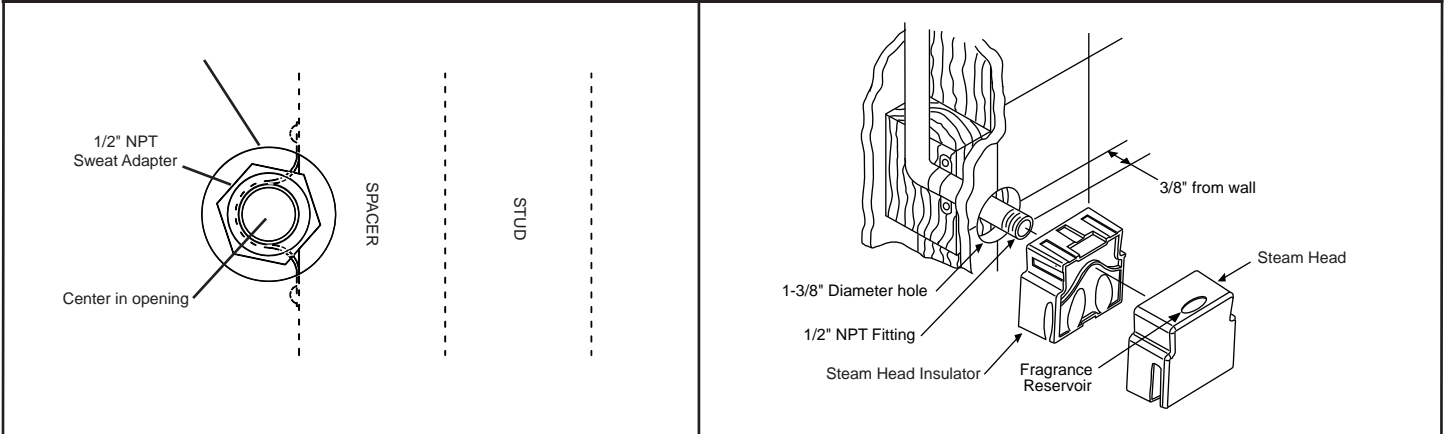


DIAGRAM 8: LOCATING THE STEAM HEADS

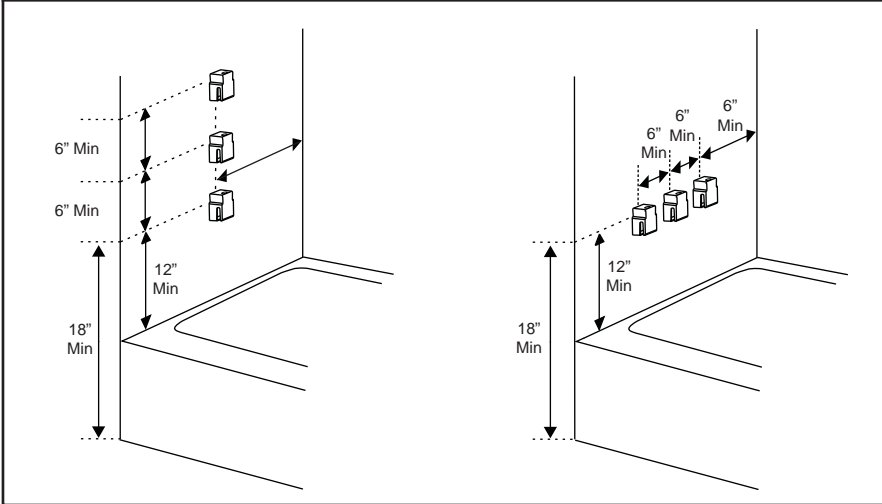


DIAGRAM 9: SEALING THE STEAM HEAD

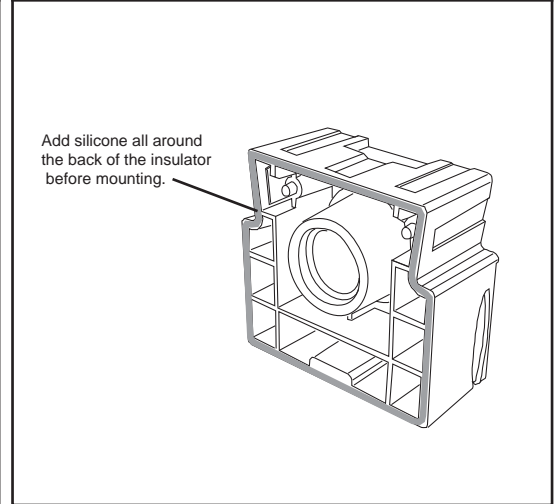
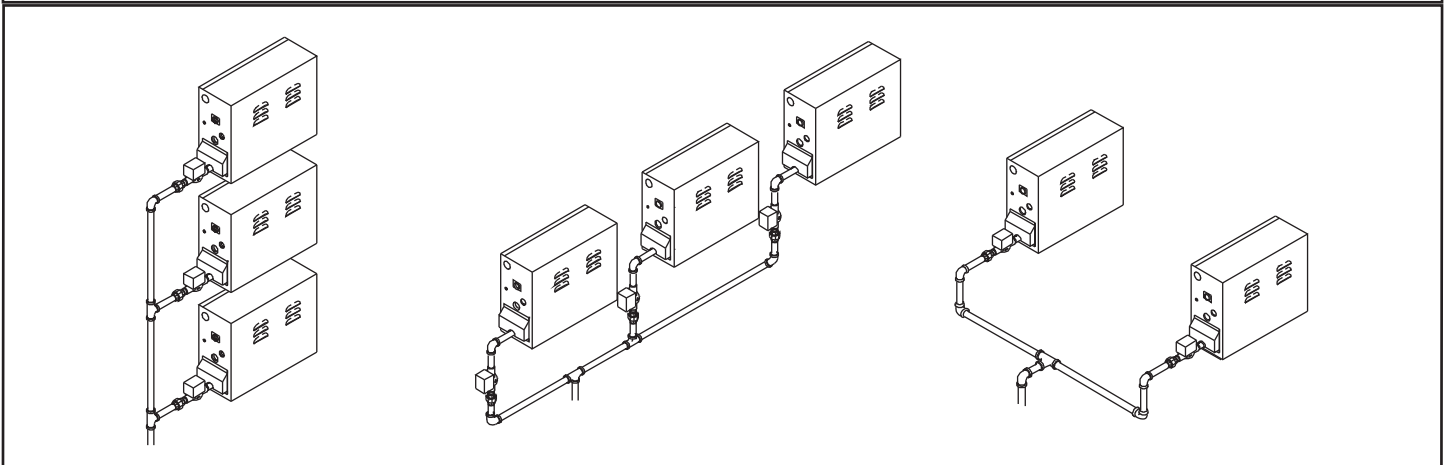


DIAGRAM 10: SOME TYPICAL DRAIN LINES



SECTION 4: PLUMBING THE GENERATORS (continued)

6. INSTALL THE PRESSURE RELIEF VALVE

Install the pressure relief valve into its port on the generator. Run a 3/4\"/>

SECTION 4: PLUMBING THE GENERATORS (continued)

7. Water Quality Requirements

The nature of a steambath generator requires testing of the feedwater to avoid potentially high concentrations of impurities which can cause a deposit or scale to form on the internal surfaces. This deposit or scale can interfere with the equipment's proper operation and even cause premature failure. Concentration of impurities is generally controlled by treating the feedwater and/or "blowing down" the generator when it is not heating. The blow down process involves removing a portion of the tank's water with high solid concentration and replacing it with makeup water.

To ensure proper operation, the water supply should be tested prior to operating the equipment. There are several treatment processes which can be used if you have a water quality problem. A local reliable water treatment company can recommend the appropriate treatment if required. Recommended water quality is listed below:

Feed Water Quality

Hardness	10 - 30 ppm	(5.1 - 1.75 gpg)
T-Alkalinity	150 - 700 ppm	(8.75 - 40.8 gpg)
Silica Range	15 - 25 ppm	(1.28 - 1.45 gpg)
PH (strength of alkalinity)	10.5 - 11.5	

IMPORTANT

Regular maintenance will help your steamer work properly for a long time. Check for leaks, loose or damaged wires, signs of corrosion and calcium build up in the tank and on the level probe. This is particularly important in areas with high calcium levels and other water quality problems. Calcium buildup can cause poor steamer performance and damage the heating elements!

SECTION 5: WIRING INSTRUCTIONS

1. T100 CONTROL CABLE ROUGH IN

The low voltage control can be mounted up to 25 feet from the generator either inside or outside the steam room. A 25' shielded 8 conductor cable (provided) is required for connecting the T100 control to the steam generator. String the 25' cable from the control location through 1/2" holes in the wall studs or ceiling joists to the generator. Note: Do not staple through or damage cable. Use factory supplied cables only.

2. TEMPERATURE SENSOR CABLE ROUGH-IN

It is recommended that the sensor be mounted in the steam room 6" from the ceiling, but not directly over the steam dispersion head or more than 7 feet above the floor. String the sensor cable from the sensor location through 1/2" holes in the wall studs or ceiling joists to the generator location. Leave 12" of slack at the sensor location. Note: Do not staple through or damage cable. Use factory supplied cables only.

3. ELECTRICAL ROUGH-IN

Size wire for each generator as indicated by the Electrical Information Chart on page 9. Use correct size and type to meet electrical codes. Leave 4 feet of slack wire at generator location to finish hookup. Connect the generator to a dedicated circuit breaker.

4. ELECTRICAL FINISH

At the generator, route the copper supply wire with a 3/8" strain relief through the hole marked POWER ENTRY. Connect the supply wires to terminals marked L1 and L2 (and L3 for three phase). Connect the supply ground to the ground lug (green screw). Refer to the wire diagrams at the end of this document for your model.

Note: AT12 and AT14 single phase units require two separate supplies. Refer to the electrical chart and wire diagram when connecting these units.

5. INSTALL T100 CONTROL

The low voltage control can be mounted directly to a finished wall either inside or outside the steam room. Using the supplied template, cut a hole in the finished wall where the control is to be mounted (the control cable should already be roughed-in to this location). Locate the control cable and plug it into the back of the control housing. See diagram 11. Run a bead of 100% silicone caulk around the perimeter on the back of the control housing. Insert the T100 into the finished wall, center the control and tape the control against the finished wall while the silicone hardens.

6. INSTALL THE TEMPERATURE SENSOR

The temperature sensor should be mounted 6" below the ceiling, inside the steam room, but not directly over the steam dispersion head or more than 7 feet above the floor. Using a 7/8" hole saw, drill a hole in the finished wall where the sensor is to be mounted (the sensor cable should already be roughed-in to this location). Locate the sensor cable, pull it out through the hole and plug it into the temperature sensor. It is best to tape the sensor and cable connection together to avoid disconnection inside the wall. Apply silicone caulk as shown in diagram 8 and insert the sensor in the hole.

WARNING

ELECTRICAL SHOCK HAZARD!

Hazardous voltage is exposed inside the steam generator. Shut off all power to the generator before servicing.

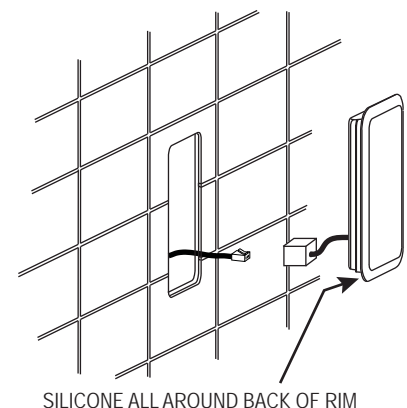
Supply electrical power through copper wire rated 75C minimum.

IMPORTANT

A GFI device is not required by UL or NEC. One may be installed if required by local codes or the owner. A GFI device will tend to nuisance trip due to heater element aging.

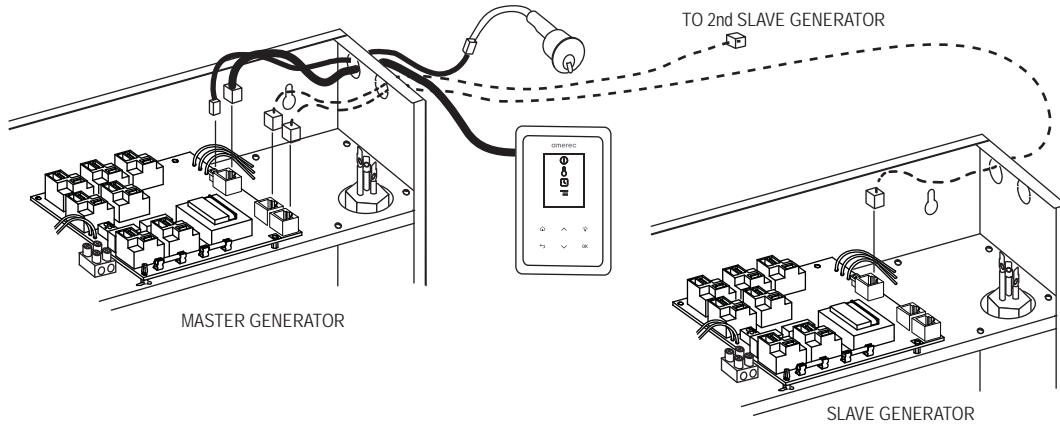
To reduce the risk of electrical interference from other devices, use only a shielded cable to connect the T100 control to the steam generator.

DIAGRAM 11: T100 CONTROL INSTALLATION



SECTION 5: WIRING INSTRUCTIONS (continued)

DIAGRAM 12: CABLING THE GENERATORS



Make sure that the sensor probe is pointing down once installed. Tape the sensor in Place while the silicone hardens. Route the generator end of the sensor cable through the generator hole marked CONTROL WIRING ENTRY using the control cable strain relief. Plug the sensor cable into the RM TEMP connector on the printed circuit board assembly. See diagram 12.

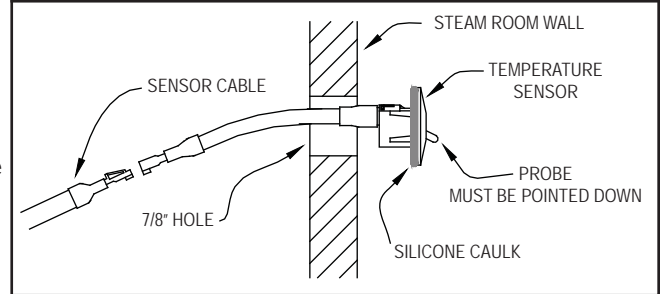
6. WIRING THE GENERATOR CONTROL CABLES

Choose one generator to be your "Master" unit. This generator will control the other one or two "slave" generators in the system. If the generators are not the same size (kW), the largest wattage generator should be the master.

At the Master generator: Route the generator end of the control cable through the generator hole marked CONTROL WIRING ENTRY using the strain relief provided. Plug the control cable into the T100 metal shielded connector on the printed circuit board assembly. See diagram 12.

Connect a shielded control cable to the Master generator's OUT1 jack and route this cable out the Master's CONTROL WIRING ENTRY and into the first slave generator through its CONTROL WIRING ENTRY hole. Connect this cable to the slave's T100 jack. If a second slave generator is to be used, route another control cable in the same manner from the Master's OUT2 jack to the slave's T100 jack. **Note:** If additional room is needed at the Master generator for routing the slave cables, a knock out is provided next to the CONTROL WIRING hole. Secure all cables.

DIAGRAM 13: TEMPERATURE SENSOR INSTALLATION



SECTION 6: ELECTRICAL INFORMATION CHART

MODEL	AC VOLTAGE	PHASE	NOMINAL WATTAGE		NOMINAL AMPERAGE		UL RECOMMENDED PROTECTIVE DEVICE	
			@208V	@240V	@208V	@240V	@208V	@240V
AT5	208/240V	1	3,750	5,000	18.0	21.0	25	30
AT7	208/240V	1	5,250	7,000	25.3	29.0	35	40
AT10	208/240V	1	7,500	10,000	36.1	41.5	50	60
AT12	208/240V	1**	9,000	12,000	28.8/14.4	33.3/16.7	40/20	50/25
AT14	208/240V	1**	10,500	14,000	32.5/18.0	37.5/20.8	50/25	50/30
3T8	208V	3	7,900	-	21.9	-	30	-
3T10	208V	3	10,100	-	28.1	-	35	-
3T12	208V	3	33,300	-	31.3	-	40	-
3T14	208V	3	14,500	-	40.2	-	50	-

* 208 VAC wired units must be supplied with a minimum of 195 VAC while operating (heating). Unit is rated for copper wire only. All wire is UL approved 300V 75°C minimum unless otherwise specified.

** Single phase 12kW & 14kW require two separate line feed circuits.

SECTION 7: OPERATIONAL TEST *After controls and slave generators are connected*

After connecting the control, temperature sensor and slave generator(s) to the master generator:

1. Assure power and water are on.
2. Press the control's ON/OFF switch. A light vibration should be felt in the control and the control's display should light-up.
(*see control instructions included with control kit*)
3. Allow 10 minutes for the steam to start. The time to see steam start will vary depending on each generator's power rating.
4. Once the steam starts, press the ON/OFF switch. The steam should stop; there shouldn't be any water flow.
5. Press the ON/OFF switch.
6. Within one minute the units should again produce steam. The generators should call for water once every two minutes or more depending on their power rating. It's normal for the flow of steam out the steam head to slow for up to 10 seconds each time a unit calls for water.
7. The units will shut down automatically in 60 minutes. When the time runs out the steam will stop and there should not be any water flow.
8. If the units do not operate as described above, refer to SECTION 8: TROUBLESHOOTING GUIDE.

THE SYSTEM IS NOW READY FOR OPERATION.

SECTION 8: SERVICE

1. DESCRIPTION OF STEAM GENERATOR

The Printed Circuit Assembly (the "PCA") provides the basic functions necessary to produce steam. The PCA controls makeup water, provides a water level permissive for powering the elements and provides raw DC power for the system. The PCA also provides regulated non-interruptible low voltage VDC power for the T100 control and the temperature sensor. It also provides the interface circuitry between the control and the PCA. The T100 control provides the room temperature control loop, an adjustable bath timer and power switching for "soft steam".

2. MAINTENANCE OF STEAM GENERATORS

- VISUAL INSPECTION - Whenever the generator is opened, inspect for any evidence of water leaks. Inspect the wiring for any evidence of overheating. Check all electrical connections for tightness.
- FLUSH TANK - Flush monthly, or more often, depending on local water conditions.
- FLUSHING PROCEDURE:
 1. The generator should be cool.
 2. Press the ON/OFF button. The control should light.
 3. Open the manual drain valve (if installed) and manually open the Autodrain valve by moving the lever until it latches.
 4. The unit will drain without heating the water.
 5. Allow the water to run for a full 10 minutes, then press the ON/OFF button. The control should turn off.
 6. Allow the unit to drain completely. When the water stops, close the drain valves.

3. REPAIR OF GENERATORS

A. ELEMENT REPLACEMENT: Disconnect power from the unit. Drain the tank. Remove the front and HEATING ELEMENT ACCESS covers. Note the wire connections. (*See diagrams 14 & 15*) Remove the element wires. Using a hot water element socket, remove the element.

To install a new element, mount a new element gasket on the element. Clean the element port and add a light coat of Rectorseal No. 5 pipe thread compound to the threads. Insert and hand tighten the element-gasket combination. Notice the element end orientation as shown in diagram. Tighten the element until the orientation is the same as the diagram, $\pm 15^\circ$. The gasket should be set and tight but not deformed to a rounded or bulbous appearance. If the drain valve was removed reinstall it. Reconnect the wiring. Test the unit per SECTION 7: OPERATIONAL TEST. Check for leaks at the element. Replace the front and HEATING ELEMENT ACCESS covers. (Replace with factory supplied elements only)

B. PRINTED CIRCUIT REPLACEMENT: Printed circuit assembly (PCA) removal and replacement must be performed in the following sequence, any other method can damage the PCA. (*See diagram 16-19*)

Disconnect power from the unit. Note and tag the positions of all wires that plug into the printed circuit assembly mounted relays. Remove all the wires from the relays. When removing these wires, pull on the connector, not the wire. Note the blue connected to the shortest of the triple pronged water level probe rods and the black wire connected to the rod with black tubing. Disconnect all three wires from the water level probe. Remove PCA from all five standoffs by pinching the tops or removing the screws. When it is completely disconnected, it may be lifted out of the enclosure.

To install the board, reverse this procedure. The wire lugs must fit tightly onto the relay tabs! Test the unit per SECTION 7: OPERATIONAL TEST.

WARNING

Electrical shock hazard!

Disconnect all electrical power before servicing the generator.

All wiring should be installed by a licensed electrical contractor in accordance with local and national codes.

For continued safe operation use factory authorized replacement parts only.

IMPORTANT

The PCA's contain static sensitive devices. Static electricity may damage PCA's. Handle accordingly

The blue wire connected to MAX on the PCA must be connected to the shortest of the three level probes, the black wire (MID) to the long probe with black tubing and the white wire (MIN) connected to the longest probe with white tubing.

DIAGRAM 14

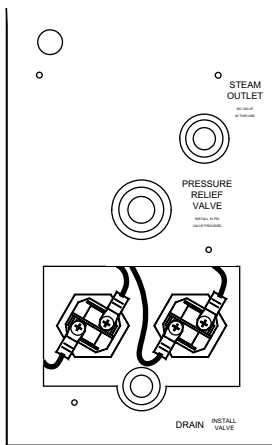


DIAGRAM 15: ELEMENT ALIGNMENT

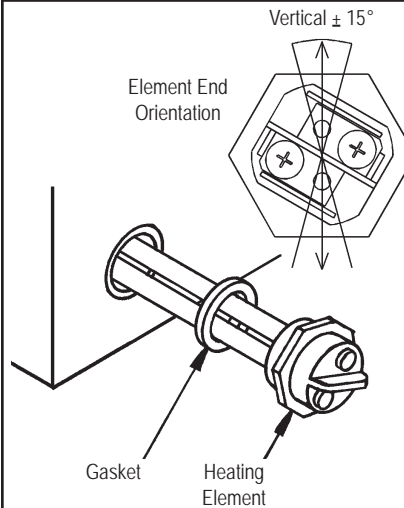
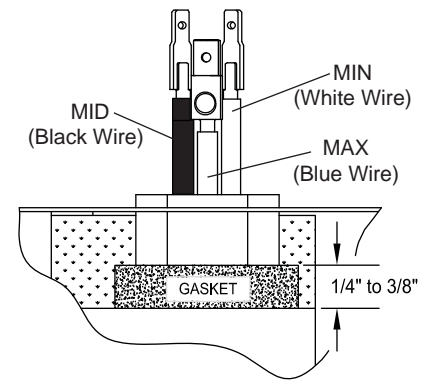


DIAGRAM 16: LEVEL PROBE



SECTION 8: SERVICE (continued)

C. WATER SOLENOID REPLACEMENT:

Disconnect power from the unit. Turn the water supply OFF. Disconnect the water supply from the water solenoid valve. Remove the front cover. Remove the two blue wires from the water solenoid valve. Rotate the self-tightening hose clamp so it can be loosened with a pair of pliers. Squeeze the clamp and move it down towards the shelf and off the valve outlet tube. Remove the two 1/4" - 20 hex head bolts and lock washers that attach the valve to the chassis. Pull the valve off the rubber fill hose. To install the valve, reverse these instructions. Test the unit per SECTION 7: OPERATIONAL TEST.

D. LEVEL PROBE REPLACEMENT:

Disconnect power from the unit. Remove the front cover. Note where the blue and black wires are connected to the triple pronged water level probe. Disconnect all three wires from the water level probe. Using a 1-1/4" box wrench, remove the level probe. Install a new level probe. Use Teflon Tape on threads of probe if required. Tighten until the bottom of the plastic nut is 1/8" to 3/8" inch above the top of the port. See diagram 16. Reattach the three wires. Test the unit per SECTION 7: OPERATIONAL TEST.

DIAGRAM 17

PCA Power Relays Connections 3 versions available

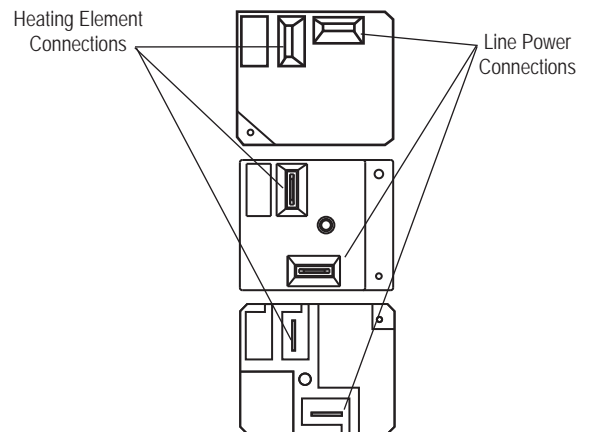
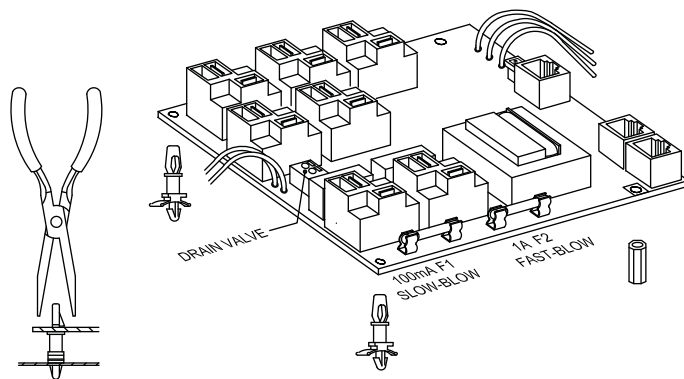


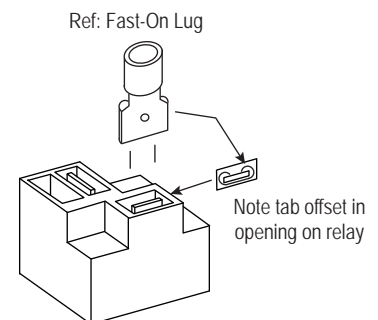
DIAGRAM 18: PCA REMOVAL

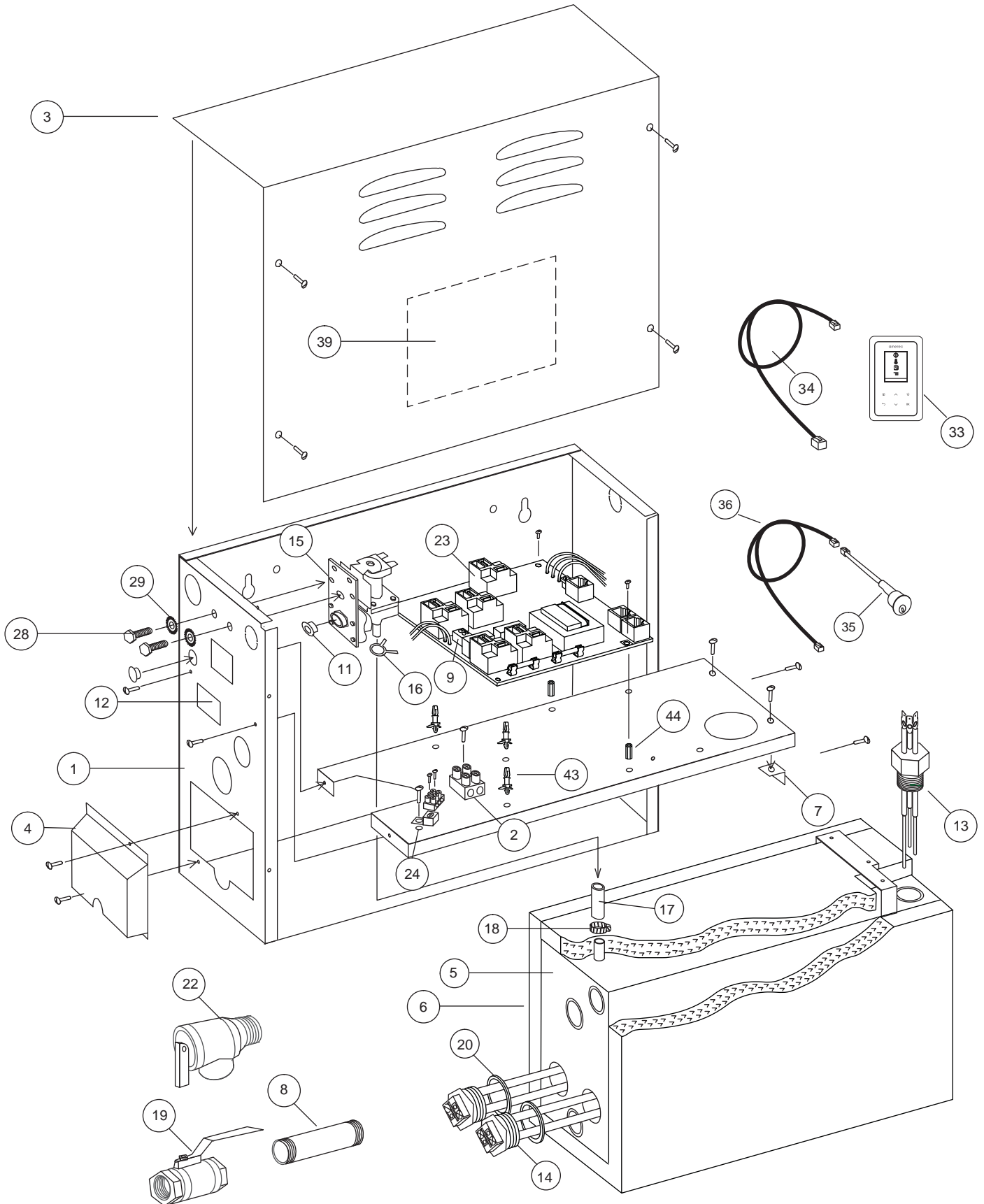


To remove the steamer PCA:

Remove the screw(s) from the metal standoff(s) then carefully lift up on the PCA near each nylon stand-off as you use needle nose pliers to squeeze and release the locking tabs as needed.

DIAGRAM 19





ITEM NUMBER	PART NAME	DESCRIPTION
1	FRAME	CHASSIS
2	TERMINAL	POWER INPUT TERMINAL BLOCK
3	COVER	FRONT WITH WD LABEL
4	COVER	ELEMENT ACCESS
5	TANK	TWO OR THREE ELEMENT
6	INSULATION	BLANKET
7	BRACKET	L-BRACKET
8	NIPPLE	DRAIN NIPPLE, 1/2" NPT
9	TERMINAL	AUTODRAIN TERMINAL BLOCK
11	CAP	CAP, THREAD PROTECTOR
12	LABEL	ID AND RATING LABEL WITH ETL MARK
13	PROBE	WATER LEVEL PROBE, 3 LEVEL
14	ELEMENT	IMMERSION ELEMENT
15	VALVE	WATER INLET VALVE
16	CLAMP	HOSE CLAMP, SELF TIGHTENING
17	GASKET	WATER INLET HOSE
18	BRACKET	HOSE CLAMP, AUGER
19	VALVE	DRAIN VALVE, MANUAL
20	GASKET	ELEMENT GASKET
21	BRACKET	MOUNTING BRACKET
22	VALVE	PRESSURE RELIEF VALVE
23	PCA	CIRCUIT BOARD, AT-3T STEAMER
24	LUG	GROUND LUG
28	BOLT	1/4-20 X 1/2"
29	WASHER	1/4" LOCK
33	CONTROL	T100
34	CABLE	8 CONDUCTOR CONTROL CABLE, SHIELDED
35	SENSOR	TEMPERATURE SENSOR
36	CABLE	2 CONDUCTOR TEMPERATURE SENSOR CABLE
37	STEAM HEAD	COMFORT FLO DISPERSION HEAD (NOT SHOWN)
38	PLACARD	SAFETY (NOT SHOWN)
39	LABEL	WIRE DIAGRAM
40	FUSE	FUSE, 100mA SLO-BLO
41	FUSE	FUSE, 1A FAST BLO
43	STANDOFF	PCA MOUNT, NYLON
44	STANDOFF	PCA MOUNT, HEX, ALUMINUM, 6-32

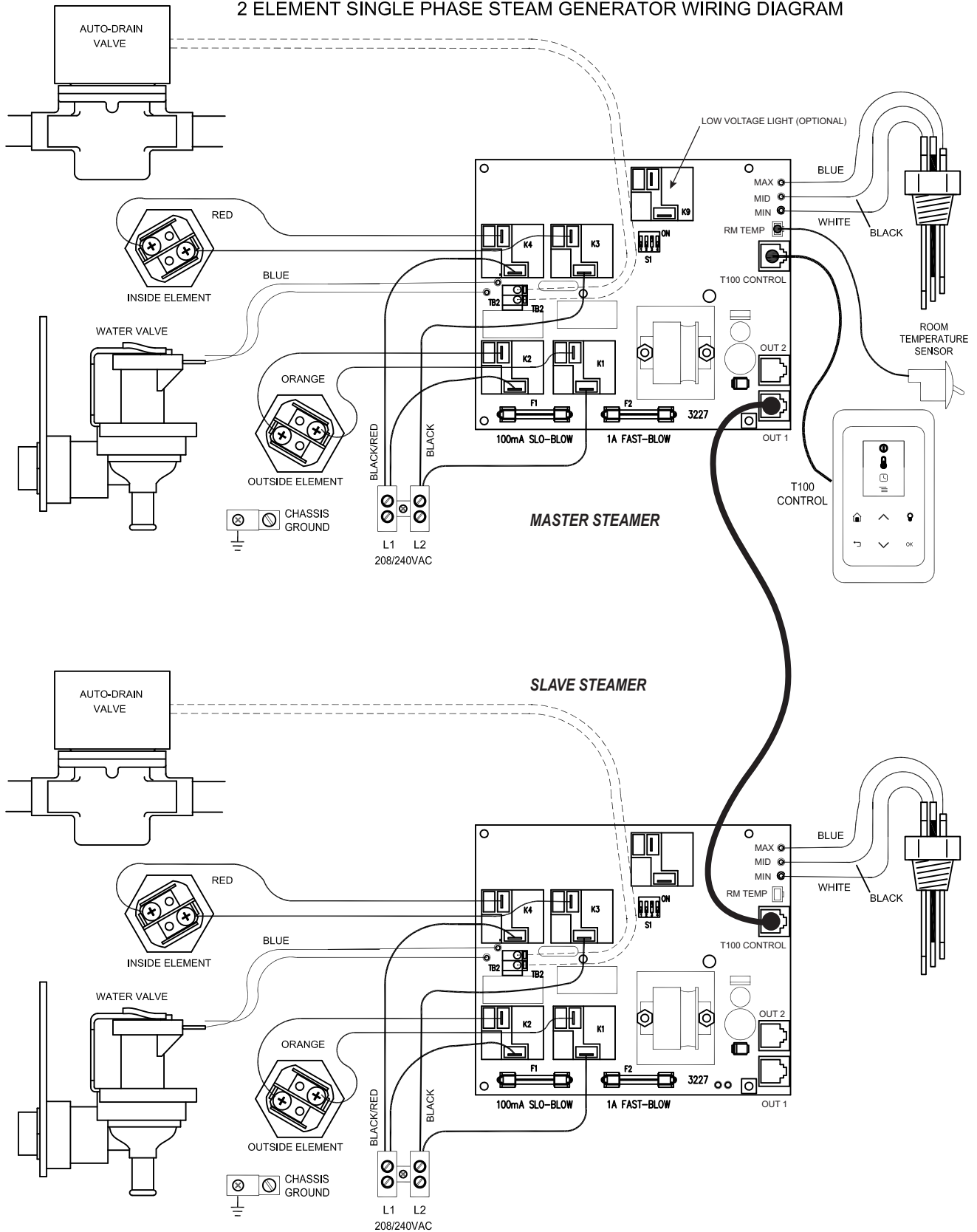
NOTE: 2 element single phase steamer shown, 3 element models are essentially identical.

FOR PARTS AND/OR RETURNS:

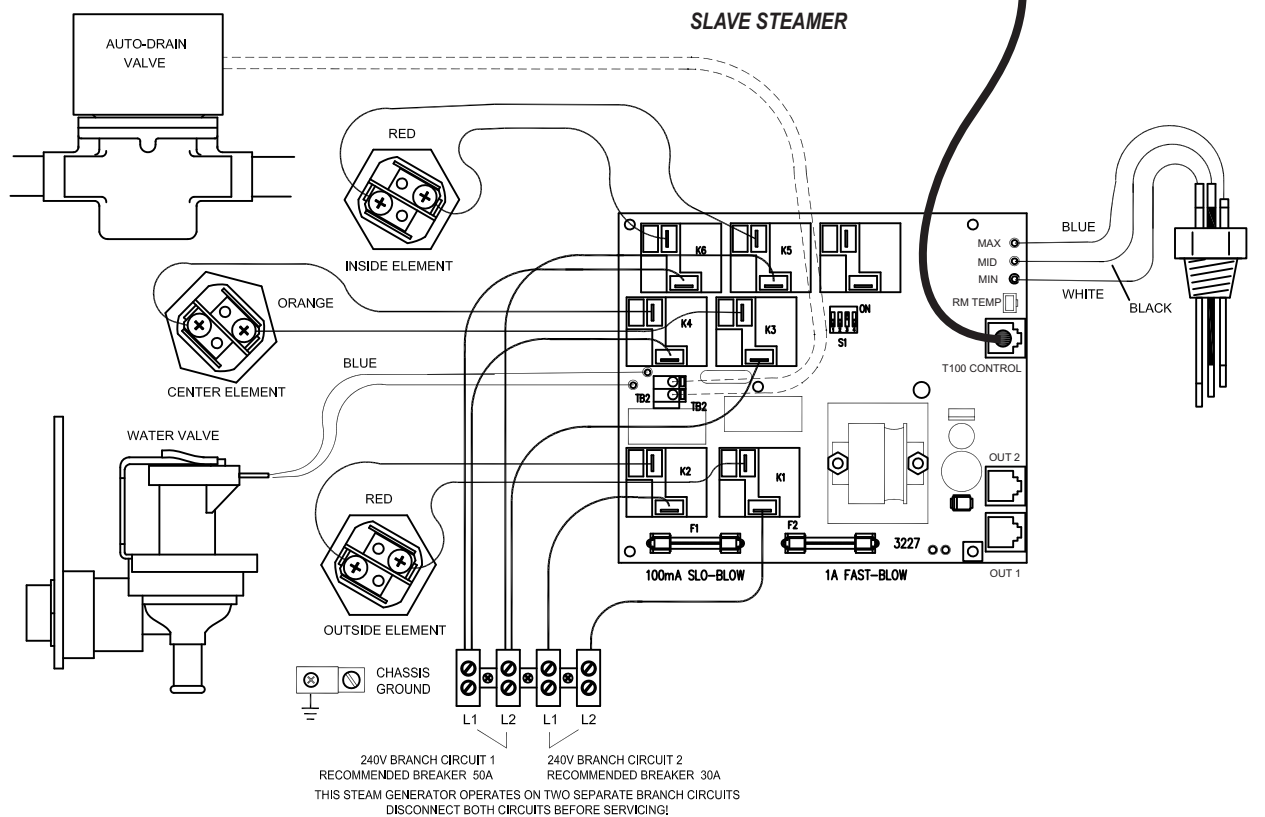
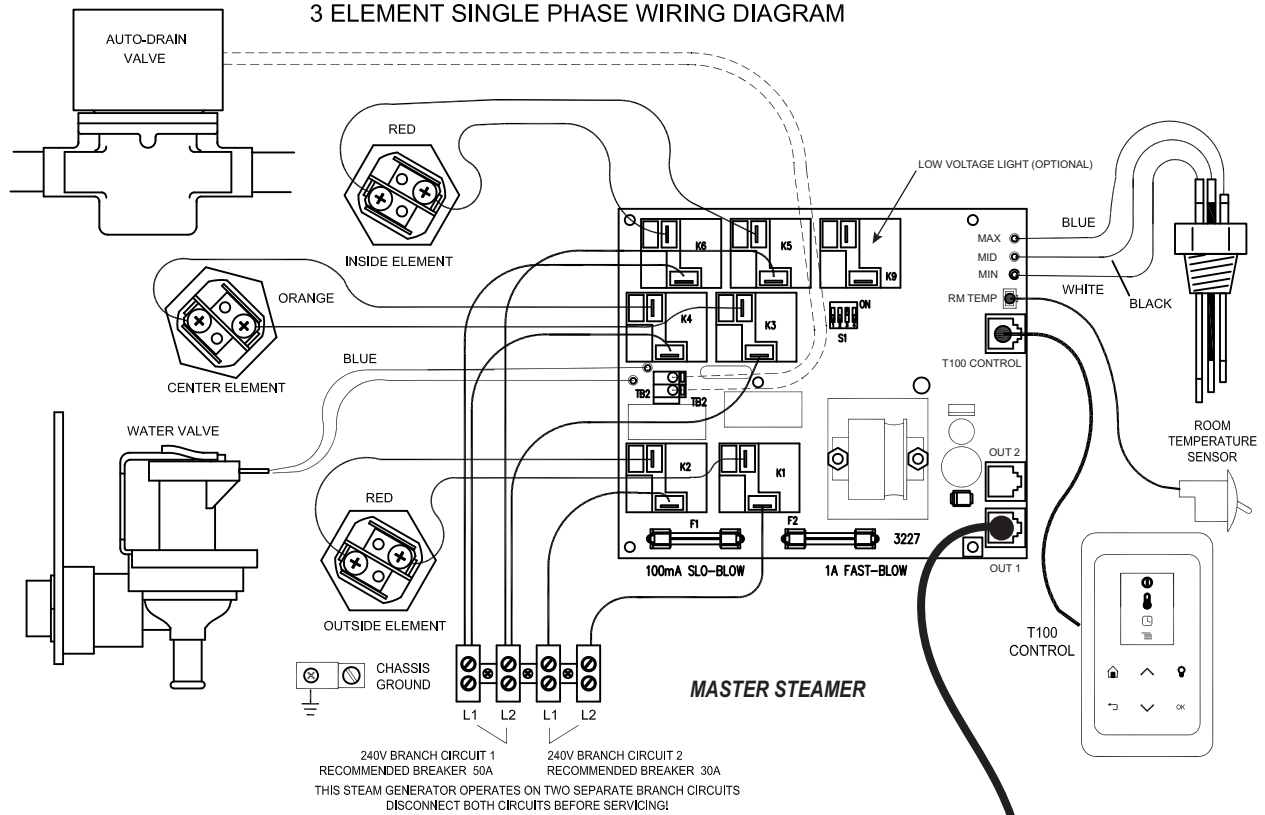
- For assistance or parts ordering, please contact your local Dealer or Technical Support at 1-800-363-0251. Please help us to serve you better by:
 1. Identifying the problem by using the troubleshooting guide in this manual.
 2. Read Number 12, the ID/Ratings Label, to obtain your unit's model and code number.
- When ordering parts, please provide the number, description and quantity needed. When ordering wires or wire assemblies, please describe the wires by color, location and / or their connection points.
- Do not return any material without first contacting Technical Support for a Return Authorization Number. Freight must be prepaid to Factory.

Technical Support
PO Box 2258
Woodinville, WA 98072
Phone 1-800-363-0251
FAX 425-951-1130
email: support@amerec.com

2 ELEMENT SINGLE PHASE STEAM GENERATOR WIRING DIAGRAM



3 ELEMENT SINGLE PHASE WIRING DIAGRAM



3 ELEMENT THREE PHASE WIRING DIAGRAM

