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FINO
STEAM GENERATOR

**FINO STEAM GENERATORS
INSTALLATION, OPERATION AND
MAINTENANCE MANUAL**

FINO

We manufacture steam generators for any steam bath need. They are the result of many years of continued research. From the smallest residential unit to the largest commercial unit, our products are manufactured to the same rigid quality standard. We also custom build for those specialized applications e.g. yachts, Recreational Vehicles (RV's), specialized home or commercial use, executive fitness rooms, club house, hotels, resort, and high end spas.

INTRODUCTION

Steam Bath® steam generator has been tested and approved by CSA and listed with UL, also manufactured as per ISO 9001:2008 Quality Management System, so you are assured of the highest quality and safety standard.

This manual is a comprehensive guide to proper installation, operation and maintenance of your ® **RS, CS, and RV Series steam units.**

It covers the following Models:

RS Series	CS Series	CS Large	RV Series
RS 50	CS 11	CS 18	RV 9
RS 100	CS 12	CS 21	RV 13
RS 150	CS 13	CS 24	RV 15
RS 250	CS 15	CS 30	RV 18

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SPECIFICATION SHEET

MODEL NO.	KW MAX	Volts/ Phase/ Amps	Wire Gauge	CU FT RANGE	MAX DIM L x W x H (w/drain)	NET WEIGHT
RV9	8.5	240/1/38	8	50-375	15"x5"x12"	24 lbs
RV13	13	240/1/55	6	50-600	15"x8"x12"	30 lbs
RV15	15	240/1/63	4	50-700	15"x8"x12"	30 lbs
RV18	18	240/1/75	3	50-800	15"x8"x12"	30 lbs
RS50	3.0	240/1/13	12	50-90	23"x7"x10"	25 lbs
RS100	4.5	240/1/19	12	90-150	23"x7"x10"	25 lbs
RS150	6.5	240/1/27	10	150-250	23"x7"x10"	25 lbs
RS250	8.5	240/1/36	8	250-375	23"x7"x10"	25 lbs
CS11	11	240/1/46	8	300-450	25"x9"x10"	30 lbs
CS12	12	240/1/50	6	400-550	25"x9"x10"	30 lbs
CS13	13	240/1/55	6	450-600	25"x9"x10"	30 lbs
CS15	15	240/1/63	4	500-700	25"x9"x10"	30 lbs
CS18	18	240/1/75	3	600-800	25"x9"x10"	30 lbs
CS24	24	240/1/100	1/03	up to 1200	25"x9"x18"	60 lbs
CS30	30	240/1/125	2/02	up to 1500	25"x9"x18"	60 lbs



CALCULATE THE STEAM ROOM'S VOLUME (V)

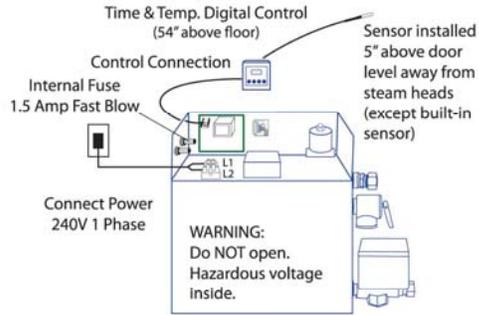
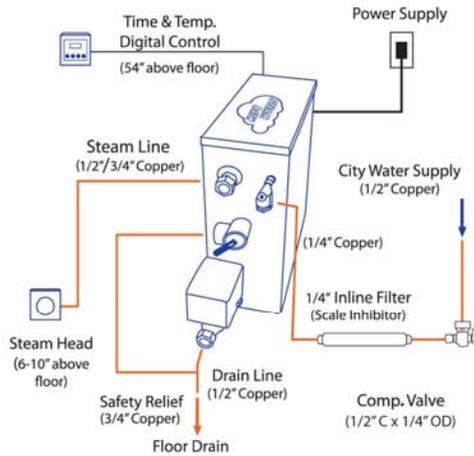
in cubic feet by multiplying its length x width x height (in feet).

Based on the construction design, determine one of the highest applicable factors from the following and multiply it by V.

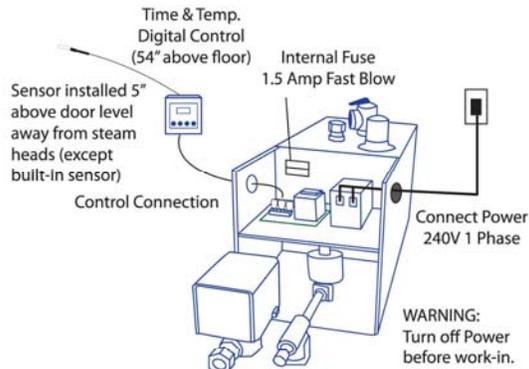
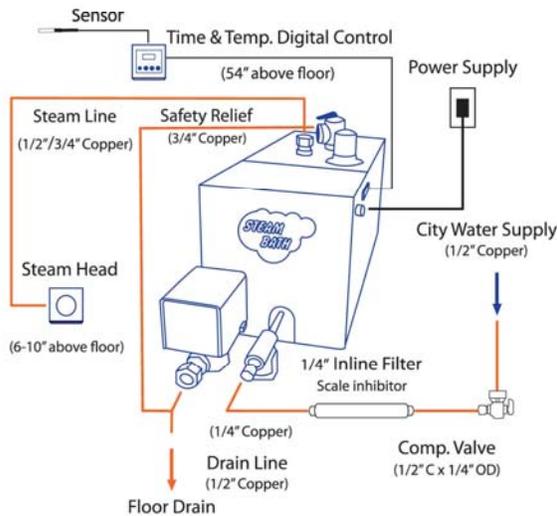
1. If Ceramic Tiles, Glass Tile, or Block is used, multiply V by 1.3.
2. If there is an external wall, or your steam room is in the basement, multiply V by 1.6.
3. If Natural Stone, Marble, Slate, or Granite is used, multiply V by 2.0.

INSTALLATION GUIDE

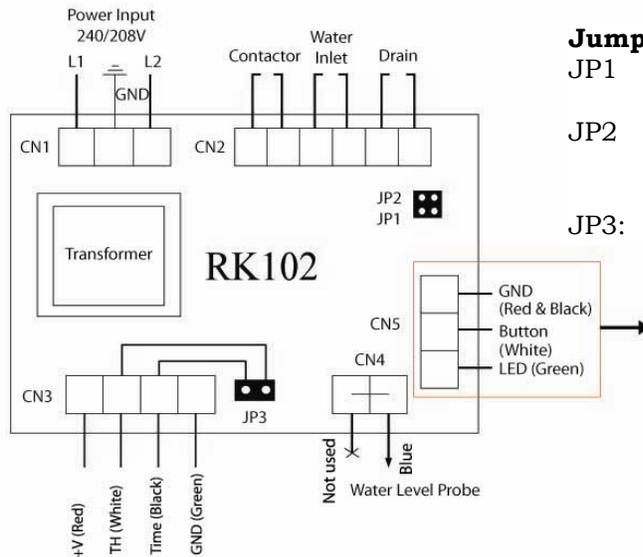
RV Series



RS Series



Wiring Diagram for Upgrading Computer Board



Jumpers:

- JP1 Open: 90-min. safety feature active.
 Close: Safety feature off.
- JP2 Open: External timer with or without button.
 Close: Only E-Touch button with 30-min. built-in timer.
- JP3: Open: Digital Timer.

Not Used:

(Only with special instructions from the manufacturer).

Connectors:

- CN1: 240V AC Input Power.
- CN2: Output Connector.
- CN3: Mechanical or digital timer input.
- CN4: Water Level Probe.
- CN5: E-Touch Button Connector.

GENERAL INSTALLATION INSTRUCTIONS

Steam Room

Locate the legged surface under the unit, if you are using an existing completely tiled shower or bathtub enclosure, make sure that it is enclosed to the ceiling.

Locating the Unit

Plan the location of your steam unit carefully. Place it for convenient installation and easy access. A good location, when possible, is in a furnace room or storage room. Do not bury the unit in walls or other inconvenient locations as it may require periodic maintenance. It may be placed up to 50 ft. (15 m) from the steam room. A gravity drain will be necessary for all units requiring drainage. Never locate the unit in an area that may be exposed to frost, or rain.

Positioning the Unit

Place this side (legged bottom) of the steam generator on a flat horizontally levelled surface. The Front Access Panel should be easily accessible. This area contains the electrical components of the unit. The Auto Flush units have a drain valve located at the front of the unit. This should always face you, so that you have easy access to the valves. Place a levelling instrument on the top of the unit, and be sure that it is horizontally levelled.



Installation in any other way will cause malfunction and burnout, voiding your warranty.

Step 1. Water Connection

Connect your water supply to your unit with 1/4" copper tubing, see Installation Guide. Install a shut off manual valve between the unit and water line close to the unit. Before connecting water line to the unit, flush the line into a pail or drain to free it of any plumbing residue. After it is thoroughly flushed, attach the water line to the inlet line on the unit and open the water supply. Check for any leaks.

If the water supply minerals are high, refer to "Filtration" section in the end of this manual.

Step 2. Steam Connection

A compression fitting is supplied at the steam outlet(s) labelled on the steam generator and a 1/2"/(3/4") copper pipe fits this fitting, see (Figure 1). Plumb from this point to the location of the steam head or vice versa. Insulate the steam pipe to prevent temperature loss in output steam, caused by heat exchange between pipe and surrounding air.

Drill a 3/4" hole into your steam room, 6"-12" above the floor or approximately 6" above the edge of your bathtub. Locate the steam head in an area where you will easily avoid physical contact. Connect the steam head to the pipe that you have brought through the hole into the steam room. Direct the steam outlet slot in the steam head down toward the floor.



Do not install any valves or limiter between the unit and the steam head; Do not have any low points in the steam line, that will allow condensation to sit in the pipe and make noise, also build up pressure in the steam unit.

Step 3. Drain Connection

This is a gravity drain on all units with Auto Flush option. A compression fitting is supplied with the unit and is to be installed on a 1/2" (3/4" - SS15 up) copper pipe that slopes slightly downward and away from the unit. It may run to an open floor drain or it can be plumbed into an existing drain line.



Without i-cooling / i-cleaning system, the draining water is hot, avoid touching the drain pipe that it may cause burns.

Step 4. Electrical Connection

Have a qualified electrician connect the unit. The power cable size and breaker size is to be determined by an electrician. Use the specification sheet inside this manual to find the voltage and wattage rating of your unit. All applicable electrical codes must be strictly adhered to. Check your supply voltage to ensure it is compatible with the voltage listed on your unit's label.

Electrical Power Connection

Install a Circuit Breaker in your Power Distribution Panel. Label that breaker as "Steam Gen" Select Circuit Breaker size according to electrical codes. Run the power cable from Circuit breaker to the unit and connect it to L1 and L2 (and L3 in 3 phase models). Fasten the ground wire to the ground terminal inside steam unit.



Do not connect Neutral to the Ground Terminal, no neutral wire used in this electrical connection

ⓘ WARNING

*Use this steam unit as the factory set it up. Modify it only on recommendation from the manufacturer. **NEVER** add valves or other controls to the steam line. To do so may cause equipment failure or personal injury, and the warranty will be null and void.*

For all models, please note the following steps:

When you need to shut down the power

1. Turn off the unit at the timer;
2. Wait for 15-30 seconds;
3. Shut down the main power supply.



Failure to do this may cause the microprocessor to malfunction.

SAFETY TIPS

1. Read all instructions in this guide prior to installing your steam generator.
2. Always ground the unit properly.
3. Make sure there are no restrictions in the steam line(s).
4. Always turn off the electrical supply and close the water line before doing any work on the unit.
5. The wet surfaces of steam enclosures may be slippery. Use care when entering or leaving.
6. Use caution when near the steam head(s). They are very hot and may cause personal injury.
7. If you become overheated while in the steam bath, you should turn on the cold shower, open the door and step out of the bath.
8. If you are pregnant, have heart problems, high blood pressure or physical symptoms other than normal, consult with your doctor to determine if you should currently use a steam room.
9. Never use a steam bath after consuming alcohol or mind altering drugs.
10. Do not allow children to use a steam bath without adult supervision.
11. This unit is designed for steam baths only. If you wish to use it for other purposes, contact the manufacturer to find out if it is suited for your application.

BASIC TROUBLE SHOOTING GUIDE

Symptoms	Possible cause	Possible Solution
New unit does not produce steam after it is connected	<ul style="list-style-type: none"> - Water is shut off - Electrical Power is off - Timer is not set - Thermostat not set - Unit not installed correctly - Not connected properly - Ground terminal connected with neutral - Thermostat sensor loose Connection - Temperature setting lower than room temp. - Damage in shipping 	<ul style="list-style-type: none"> - Turn on water supply - Turn on power. Check circuit breaker. - Turn on timer - Adjust thermostat to desired temperature - See Installation Guide & Instructions on page 3 & 4. - Check wiring - Connect Ground Wire to the Ground Terminal. - Connect sensor to control panel have room temp on display. - Increase temperature set point over the room temperature - Contact manufacturer
Used unit not producing steam	<ul style="list-style-type: none"> - No power - Power is on, not working - Water filter clogged - Water keep running - Drain valve stuck open - Element burned out - Contactor not engage - Water level probe faulty - Unit not produce enough steam. 	<ul style="list-style-type: none"> - Check & reset circuit - Check & replace 1A/250V fuse - Replace or clean filter - Open & clean inlet valve - Open & clean drain valve - Replace element - Check resistance on contactor - Clean water level probe - Calcium & mineral build up, send back to refurbish.
Water comes from steam head when * Power on * Power off	<ul style="list-style-type: none"> - Water Level Probe faulty - Heating element burnt - Dirt on solenoid seat 	<ul style="list-style-type: none"> - Clean water level probe - Check power leakage on Ground wire, replace heating element - Clean solenoid valve, clean filter
Thumping noise when unit is running.	<ul style="list-style-type: none"> - Water hammer on inlet - Water condensing on steam line - Contactor buzzing noise 	<ul style="list-style-type: none"> - Install water hammer suppressor or flex in lieu of 1/4" copper tube. - Find out low points, replace pipe - Replace contactor
Unit does not drain; Water runs through drain valve continuously	<ul style="list-style-type: none"> - Drain stuck open - Seal broken - Drain plugged - Manual drain optio 	<ul style="list-style-type: none"> - Open valve & clean up - Install rebuilt kit - Open & clean valve - Manually drain it after each use.
Unit heats but does not produce sufficient steam	<ul style="list-style-type: none"> - Drain valve stuck open and water leak through - Heating element burnt - Unit too small 	<ul style="list-style-type: none"> - Clean valve - Replace heating element - Upgrade to larger unit
Steam room too hot, steam dissipates	<ul style="list-style-type: none"> - Thermostat sensor not properly placed - Temperature setting wrong 	<ul style="list-style-type: none"> - Relocate sensor - Check the temperature setting
Steam room not hot enough	<ul style="list-style-type: none"> - Thermostat sensor not properly placed - Steam line may too long - Temperature set too low - Improper sized unit 	<ul style="list-style-type: none"> - Relocate sensor - Insulate steam line - Increase temperature set point - Contact manufacturer

FiNO Control - Glass Touch



A. Installation

This controller is installed inside the steam room only, and it comes with a built-in temperature sensor. The best location for the control is close to your bench for easy access, also further away from steam head. It is recommended to install the control pad from 36" up to the maximum 48" height.

Note: The controller is provided with a 25 ft standard-length connector cable. If you need to extend up to 50 ft, use 4-core wires (22 to 18 AWG).

B. Operation

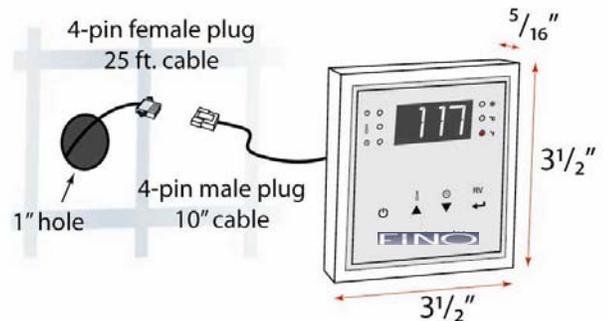
Programme for temperature setpoint and time setting.

- Power Sign:** Turns on or shut off the steam. When the control is in standby mode, the power light stays on.
- Temperature control:** Controls the temperature set point in the steam room, which can set from 10°C(50°F) to 85°C(185°F). To change the temperature setpoint, just touch the **TEMP** sign for 3 seconds, while the control is on, then use the ▲ (Up) or ▼ (Down) to set it to desired value (hold it to change faster), touch the **ENTER** to save it.
- Time control:** Controls the duration of steam operation, which can be set from 5 to 90 minutes in 1-minute increments. The unit will work until it times out. To change the time setting, Touch the **TIME** sign for 3 seconds while the control is on, then use the ▲ (Up) or ▼ (Down) to set it on desired time (hold it to change faster), touch the **ENTER** to save it.
- Temperature/Time display:** When the control is turned on, it displays the current temperature in the steam room; By simply touch the temperature / time sign to switch the display on temperature or time. On the time display, it will show the minutes counting down.
- Celsius to Fahrenheit:** To switch the display reading between Celsius and Fahrenheit, first, turn off the control. Then touch the **TEMP** sign until the "F" or "C" turns on the display.
- Lights (LEDs):** There are 5 lights around the display, each indicating a status:

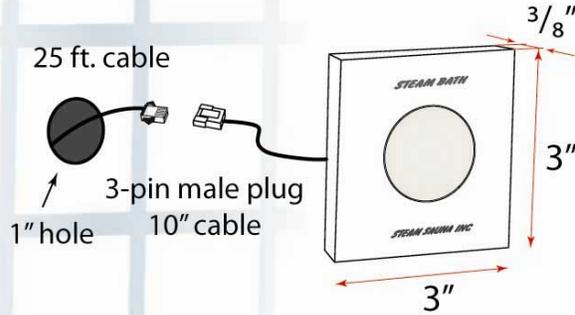
- **Power:** is on as control is off in standby mode.
- **TEMP:** is on when there is a call for steam.
- **TIME:** is on when timer is still counting down.
- **°c:** is on when temperature is set for Celsius.
- **°f:** is on when temp. is set for Fahrenheit.

- Default Setpoints:** The control goes back to the following default settings if the power is interrupted.

- Temperature defaults: 47°C (117°F). Set range: (10 to 85°C)/(50 to 185°F).
- Time default: 30 minutes. Set range: 5 to 90 minutes.

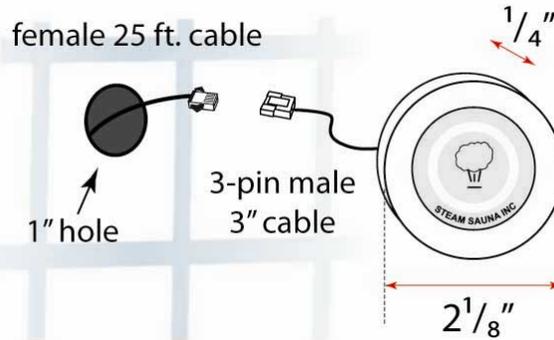


LED STONE TOUCH BUTTON



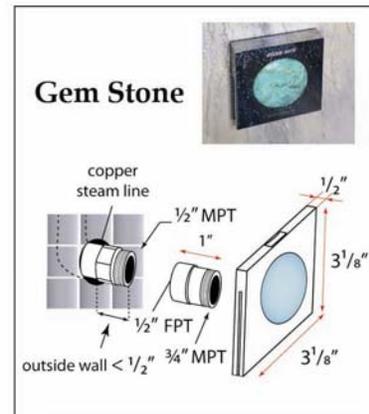
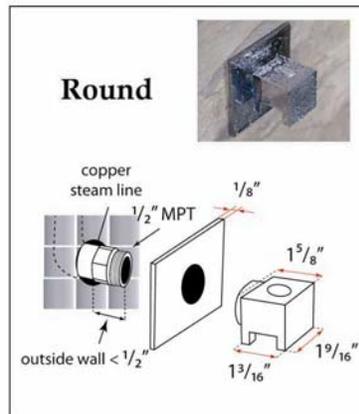
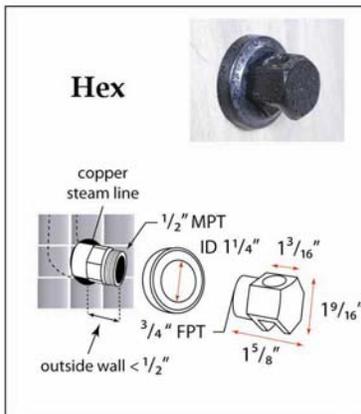
○ Touch to turn on and shut off steam with blue LED indicator light.

LED PUSH BUTTON



○ Touch to turn on and shut off steam with blue LED indicator light.

STEAM HEADS



FILTRATION

Filter System

Calcium and other mineral deposits are your steam generator's worst enemy. The factory installed a sediment filter on the incoming water supply line is imperative. However, a secondary filtration system to reduce or remove these components from the water prior to its entering the unit will not only extend time between service calls, it will extend the life of your unit. There are many filter options available as secondary filters. These will reduce or even eliminate the mineral buildups within the tank.



Water Scale Inhibitor

Water Softener or Reverse Osmosis (R.O.) System



Water Softener

Either of these systems is ideally suited as a secondary system. However, even if there is a water softener set up on the house water other than R.O. System, it is set up to accommodate only the heating of water and not the boiling of water. A secondary small softener dedicated to the steam generator is generally recommended. It will need to be set up slightly differently than the house softener so that it strips all mineral impurities from the water.

SCENT DISPENSER

Scent dispenser pumps the fragrance (eucalyptus, wintergreen...) from the bottle into the steam line. Install the scent pump beside the steam generator and connect its adaptor to the power source.

The scent tubing starts from the Fragrance Bottle and its black portion will be mounted on the scent pump wheel. Then it ends to the saddle valve, which will tap into the steam line.



Scent Dispenser

