

## COMMERCIAL STEAM GENERATORS TYPICAL DAILY OPERATION

1. The time clock or the remote switch, whichever is selected to start-up/shut-down the RELAX-A-MIST steam generator, activates four systems:
  - drain valve circuit
  - water level control circuit
  - temperature control circuit
  - contactor heating element circuit
2. At start-up, before steam can be produced:
  - a) the drain valve must be in the closed position.
  - b) the stand-by and high temperature thermostats must be calling for steam and heat.
  - c) the steam boiling tank water level control circuit must be sensing that the water level is at the "FULL" position.
  - d) the pressure relief loop must be filled with water.
3. The steam generator heating element circuit will not close until the water level probe senses "full" water and the thermostat indicates steam and heat is required.
4. When water boils out of the steam generator tank and no longer makes contact with the tank's water level sensing probe, the water fill valve opens and raises the water level to full before closing. The element contactor circuit remains closed during this water refill operation.
5. *Safety #1.* Should the water boil down without being replenished (ie the water valve does not open or the line is plugged) then after a 15 second period of the water level circuit not sensing water, the element relay circuit will open shutting down the boiling operation. This situation must be corrected before the normal boiling operation can continue.
6. *Safety #2.* Should residual build-up cause an incorrect reading of the water level control circuit and the boiling continues without the water being replaced, the heater elements may become exposed above the water level. The exposed elements will transfer heat to the boiler thermal protection device cycling the electric current to the elements until the steam generator is turned off and the water level control circuit is serviced. This thermal protection device is an automatic reset and when activated it cycles the heater elements off and on as the thermo switch heats up and cools down. This type of operation, over a long period of time, may cause damage if no service is performed. The main circuit breaker or switch should be turned off until the problem has been corrected.
6. The temperature control system includes two electronic thermostats, a digital readout and a timed air switch assembly with an "on/off" indicator light. This allows the room to be kept at a moderate preheat temperature of approximately 95F (35C) until the room is required for use. The patron entering the room pushes the air switch button, illuminating the button's red light, indicating 30 minutes of user steam temperature mode. The high temperature thermostat activates the steam unit cycling the supply of steam and heat to the room. The high temperature thermostat is kept at a maximum 120F (49C). A higher temperature may scald the skin.
7. Under normal operating conditions steam will be produced until a thermostat senses that the room temperature setting is satisfied, then the heating element circuit opens and the steam stops. When the room cools and the thermostat circuit senses that the temperature has dropped below the thermostat setting, the heating element circuit is again closed to make steam as outlined above.

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During the users' 30 minute high temperature steam cycle, the red indicator light of the air switch button assembly will be illuminated. When the high temperature cycle time is completed the temperature system switches back to the low temperature thermostat standby mode. The red indicator light on the air switch button assembly will turn off when this cycle is complete. The air switch button assembly is also an on/off switch which can be activated should the patron wish to stop the high temperature cycle before it is complete. Pushing the button to off will return the system to the standby temperature cycle, lowering the room temperature.

8. At the end of the daily steam room operation, the time clock or remote switch, whichever is selected to shut-down or start-up the RELAX-A-MIST steam generator, activates the shut down system.

The shut down system's cycle starts when the flush valve opens, spraying cold water into the steam generator's boiling tank. The automatic drain valve opens to release the cooled water in the boiling tank.

In the next 20 minutes the flush cycle sprays the inside of the boiling tank with 7 separate 14 second purges. At the end of the flush cycle the automatic drain valve closes, with the boiling tank remaining empty until the time clock or remote switch activates the steam operation afresh.

9. Should your steam generator stop working:
  - a) Check the room thermostats. The room could be heated to the thermostats' temperature setting. Should no one open the door for some time the room could reach its maximum temperature and stop producing steam. Leave the door open

for a few minutes, and the steam should come back on.

- b) Check the circuit breaker supplying current to the steam generator. If it is tripped off and will not stay on leave the circuit breaker in the off position. Call for service or technical support. 1-800-Y-U-STEAM (1-800-987-8326).
- c) Check the time setting on the clock or the device operating the remote switch, which-ever is set to control the steam room's daily operation.
- d) Check that the pressure relief loop is full of water so that steam is not bypassing and exhausting to the drain. Should the steam unit still not operate, turn off the circuit breaker or power supply.

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