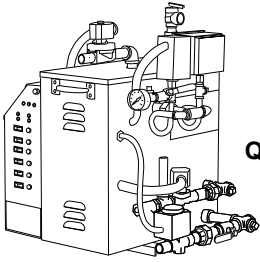


# OPERATING-MAINTENANCE INSTRUCTIONS

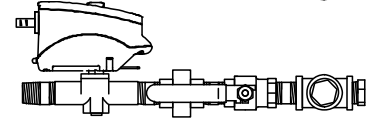
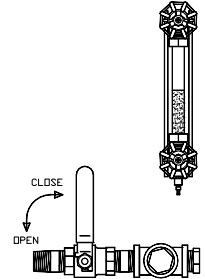
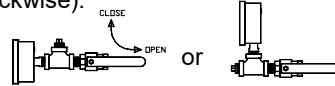
## amerec AI BOILER

Refer to Installation Instructions for detailed information.



**QUICK START:** Before applying power to the boiler for the first time On the Electrical Box's front panel set all rocker switches to the left, their normal operating position. Set the optional **Run Clock** (if installed) so the boiler is off (no orange showing in area above pointer) and make sure that water is supplied to the boiler.

- Open the valves on the glass water gage all the way (counterclockwise).
- Open the valve below the pressure gage (handle horizontal).
- If the Autodrain option is not installed, close the manual drain ball (handle up).
- If the optional electronic Autodrain is installed, open the manual drain ball valve as shown (handle pointing towards electronic valve). Set the **Drain Clock** to an off position.
- Set the room thermostat(s) to the **OFF** position.
- Press the manual reset button on the rear pressure switch.
- Turn on the electrical service to the boiler. *All lights and valves should be off at this point.*



Set the **BOILER OPERATION** switch to the right (red showing) or set the optional run clock to a "RUN" position. The **BOILER ON** light, both room **STEAM VALVE OPEN** lights and the **WATER VALVE OPEN** light should turn on and the boiler will start filling with water. When the water passes the middle of the gage glass, the feedwater valve and its light will turn off, the steam valve lights will turn off, the **BOILER HEATING** light will turn on. The boiler will heat until it reaches its operating pressure of approximately 4 to 5 psi (276 to 345 millibar) then the **BOILER HEATING** light and contactors will turn off. **NOTE: Whenever the water level is below the low water level probe during routine filling the room steam valves will open to release the air pressure created during water fill. Once the tank has filled to its maximum level the valves will operate normally, opening only when steam needs to be released to a room to increase its temperature. During normal operation, the water level should always be visible in the lower half of the gage glass.** If the water level drops below the low level probe during normal operation, the boiler will shut down and show an LWCO error (see other side of this sheet for error details).

Check for steam and water leaks. Repair any leaks before continuing.

Turn the thermostat(s) on to begin heating the steam room(s). If an (optional) I60 room switch is installed, set the thermostat to the desired temperature and press the I60 switch to start the steam bath and begin heating the room. The status LEDs on the thermostat(s), switches and boiler will light and remain on continuously when the steam bath is on and operating normally.

**BLOWDOWN** Daily blowdown/draining of the boiler is recommended, particularly in commercial installations and areas with hard water. Failure to properly maintain the boiler in this manner may cause equipment failure and void the warranty! When possible, allow the boiler to cool before manually opening the drain. Refer to local codes for drain plumbing requirements. **CAUTION: draining a hot boiler may release dangerously hot water or steam, risking personal injury and damage to plumbing! Your local code may require that boiler pressure be limited to under 5 psi (345 millibar) and require a special drain system to drain a hot boiler while under pressure!**

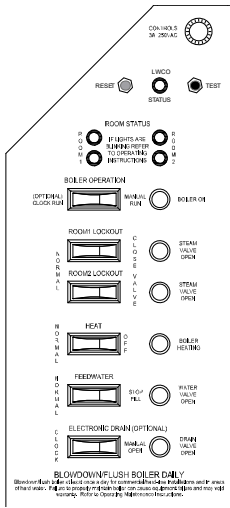
**Manual Drain:** After allowing the boiler to cool, open the manual ball valve (or open the Autodrain using the **ELECTRONIC DRAIN** switch) to drain the tank. Open the steam or safety valve to relieve the vacuum and let the drain flow fully. When the tank is fully drained, close the drain again and the boiler is ready for normal operation.

**Autodrain:** Set the **DRAIN CLOCK** to open the drain valve daily at a convenient time. The best time for this is shortly before the boiler will be turned on for the day so the restart will use fresh, clean water. The **Cool Drain™** option adds fresh water and drains part way multiple times to drain only cool water and to rinse the tank.

# OPERATING-MAINTENANCE INSTRUCTIONS

## amerec AI BOILER

Refer to Installation Instructions for detailed information.



**LIGHTS AND SWITCHES** are provided to display boiler operating status, to indicate certain room and boiler fault conditions and to allow manual control of boiler functions for routine maintenance and troubleshooting.

When the boiler is operating normally, the **BOILER ON** light will be lit. All switches will be set to the left except the **BOILER OPERATION** switch will be set to **MANUAL RUN** (unless an optional **RUN CLOCK** is installed).

Whenever the boiler is operating, the contactors will close as needed to turn on the heating elements, heating the boiler's water and creating steam. The **BOILER HEATING** light turns on when the elements are turned on. Place the **HEAT** switch in the **OFF** position to prevent heating, such as during manual blowdown.

When the feedwater valve opens to refill the boiler, the **WATER VALVE OPEN** light will turn on. Set the **FEEDWATER** switch to **STOP FILL** to prevent water fill, such as during manual blowdown.

The optional electronic Autodrain valve is normally closed, opening only when power is supplied by a Drain Clock or the **ELECTRONIC DRAIN** switch. When the Autodrain valve is opened, the **DRAIN VALVE OPEN** light will turn on. Normal operation is controlled by a clock: use the **ELECTRONIC DRAIN**

switch to open the drain without resetting the clock. NOTE: the manual drain ball valve must be left in the open position for automatic blowdown.

During normal steam bath operation, the room status LEDs on the boiler will light steadily. When the optional Refresh™ switch is installed, the bottom room status LED will turn off for two minutes while Refresh™ is in use. The boiler's **STEAM VALVE OPEN** light will turn on when steam is released to heat the steam room. Set a room's **ROOM LOCKOUT** switch to the **CLOSE VALVE** position to prevent steam being released to that room.

**FAULT CONDITIONS:** The thermostat, room switch and boiler Room Status LEDs will blink to indicate operating faults. The affected room will not heat while the status LEDs are blinking. LEDs turn on and off one or more times to define the fault, pause a few seconds, then repeat the code. The LWCO LED should be green if the level is good.

**ROOM STATUS LEDs BLINK IN UNISON** While in fault mode, that room will not heat. If the two room option is installed, only the faulty room will be affected. Turn the room off and on again (via the thermostat or room switch) to reset the system after correcting the condition.

- LEDs blink on once then pause = room temperature sensor or its cable is open or disconnected.
- LEDs blink on twice then pause = room temperature sensor or its cable is shorted.
- LEDs blink on three times then pause = thermostat or its cable is open or disconnected.

**ROOM STATUS LEDs BLINK TOP AND BOTTOM ALTERNATELY** Top left and bottom right LEDs light then bottom left and top right LEDs light to indicate an overheated room or water level error. Neither room will heat and the boiler heat will remain turned off during this condition. Turn the boiler power off and on again to reset the system after correcting the condition. Contact Amerec Technical Support!

- LEDs blink on five times then pause = Room 1's temperature is too hot (over 130°F)
- LEDs blink on seven times then pause = Room 2's temperature is too hot (over 130°F)
- LEDs continue to blink on and off without pause = see WATER LEVEL errors below

**ROOM STATUS TOP LEDs BLINK OFF** When the Cool Drain option is installed. While in Drain fault mode, the autodrain will no longer operate until power is reset.

- LEDs light 1 ½ seconds then blink off ½ second = drain is running slow; tank and drain may need cleaning
- LEDs light 1 ½ seconds, turn off ½ second, then on ½ sec then off ½ sec = drain is plugged; tank and drain may need cleaning. Contact Technical Support.

**WATER LEVEL and LWCO** This boiler has an integral Low Water Cutoff with manual reset. During normal operation, the LWCO LED is green while the boiler is in RUN mode. Turn the boiler power off and on again to reset the system after correcting the condition. Contact Amerec Technical Support!

- ROOM STATUS LEDs blink continuously as described above, LWCO LED is green = water level probes change between wet and dry in the wrong order. Check probe wires for connection error or broken wire. May need to clean probes.
- ROOM STATUS LEDs blink continuously as described above, LWCO LED is orange = lowest water level probe is dry, should be wet. Check as above. If fixed, press the Reset switch to clear the error. LED will turn green again when water refills above middle level probe after resetting LWCO.