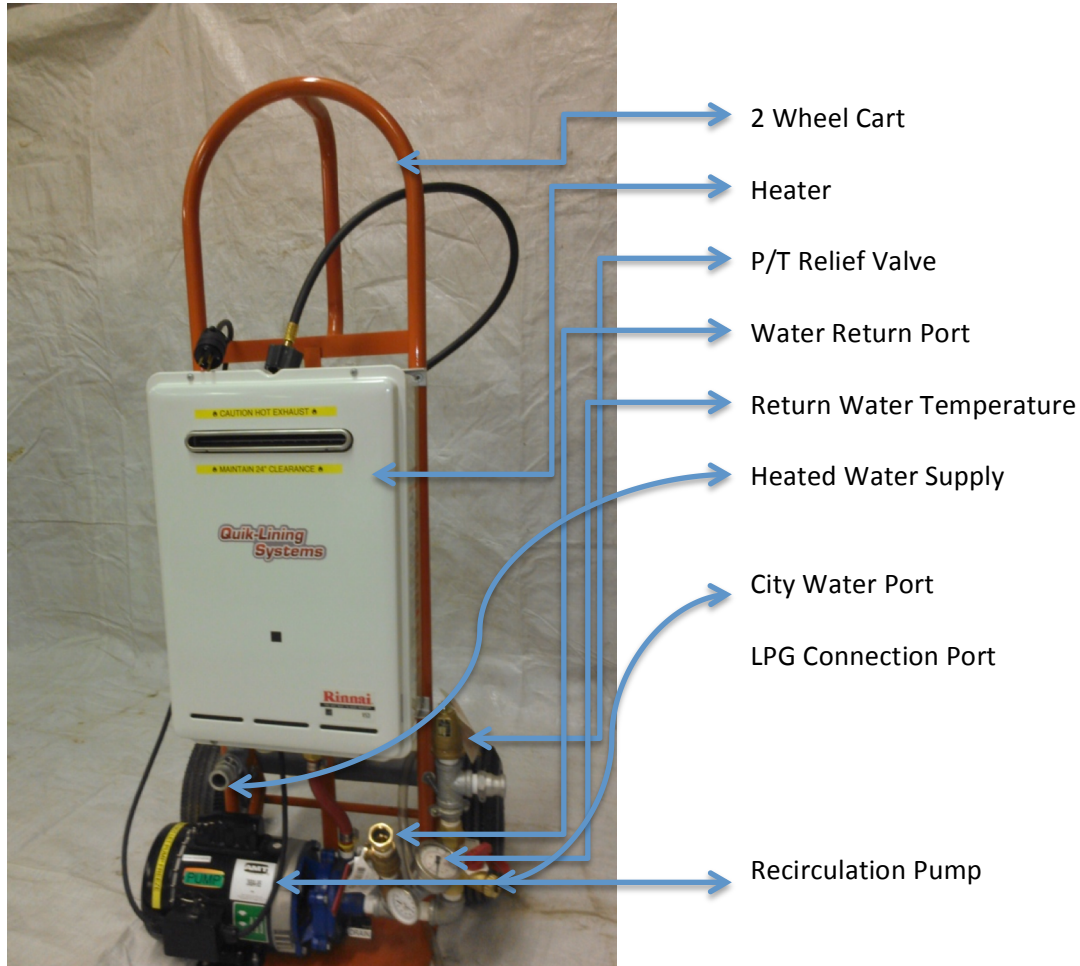




Quik Lining Systems Heater Owners Guide

Quik Lining Systems, Inc is pleased to present the Quik Heater, an innovative heater used to cure cured in place pipe for sewer laterals. The unit is the most cost effective method on the market to cure pipe without the needing specialized training and certification needed to operate boilers and steam units producing higher temperatures and pressures. This guide addresses the best practices involved in care and operation of the units we produce.



120,000 BtuH Heater

Figure 1

Quik-Lining Systems



199,000 BtuH Heater

- Cart
- Heater Unit
- Hot Water Delivery Port
- Return Water Port
- Pressure Relief Valve
- Municipal Water Supply Port
- Return Temperature Gauge
- Pump



- Unit Features up to 180F heat output
Controlled by Temperature Controller
- Pneumatic Tires/Wheels
- Porting (May be located in other configurations
than shown)
- Gas Regulator (Located on Back – Not Shown)
- LPG Connector Hose Assy (Not Shown)
- LPG Portable Tank Mount (Not Shown)



Identification of Units

We offer two water heater units for curing laterals. The two units are:

120,000 BtuH unit **V53i** **REU-VB2020FFU-US**

199,000 BtuH Unit **R94LSe** **REU-VB2735WD-US**

For parts and service be sure to identify which heater you have. If unsure, refer to the heater manual (included as a separate document)

Modification of Unit to operate as a recirculation closed loop water heating device

In order to facilitate the unit to operate as a closed loop heating unit for curing CIPP lined pipe, we've added a recirculation pump, a portable hand truck for easy transporting to and from the work site, a water manifold to introduce water into the system and to recirculate the flow from the unit to the end of the liner and back to the unit for reheating the water. These modifications allow the unit to fire and heat water at less than city operating pressure when curing the liner at pressures from 3psi to 8psi. There is also a propane connection hose and a gas regulator valve to adjust the pressure to allow the heater to operate and to connect a portable propane cylinder to the unit for a gas supply.

Setting the Unit for High Altitude Operation

Before operating the unit, it may be necessary to reset the "dip" switches inside the unit if operated above sea level to 2,000 foot elevations. If operating the unit above 2000' elevation, refer to the Water Heater Guide under High Altitude Installation in the accompanying Heater Manual. You will note the "dip" switches to reset to operate at the elevation where you are using the unit.

Daily Maintenance

Prior to heading to the field, the unit should be inspected to insure that all hoses and connections are visually inspected for defects, and tested for any leaks. While water leaks may be managed, they cause spillage of liquids in areas you may not want them to be leaking. Propane leaks are dangerous and may cause fire. Propane is heavier than air and falls to the ground. This can be very dangerous if a spark or fire source is introduced to a area where propane gas has accumulated. If you are not comfortable with the hoses, a good practice would be to replace them and not chance damage or injury.



On the bottom of the heater is a small water filter screen. The screen is designed to catch any debris passing through the heating coil and requires regular cleaning. Depending on the water source, cleaning may be needed daily. (Note water filter location below)

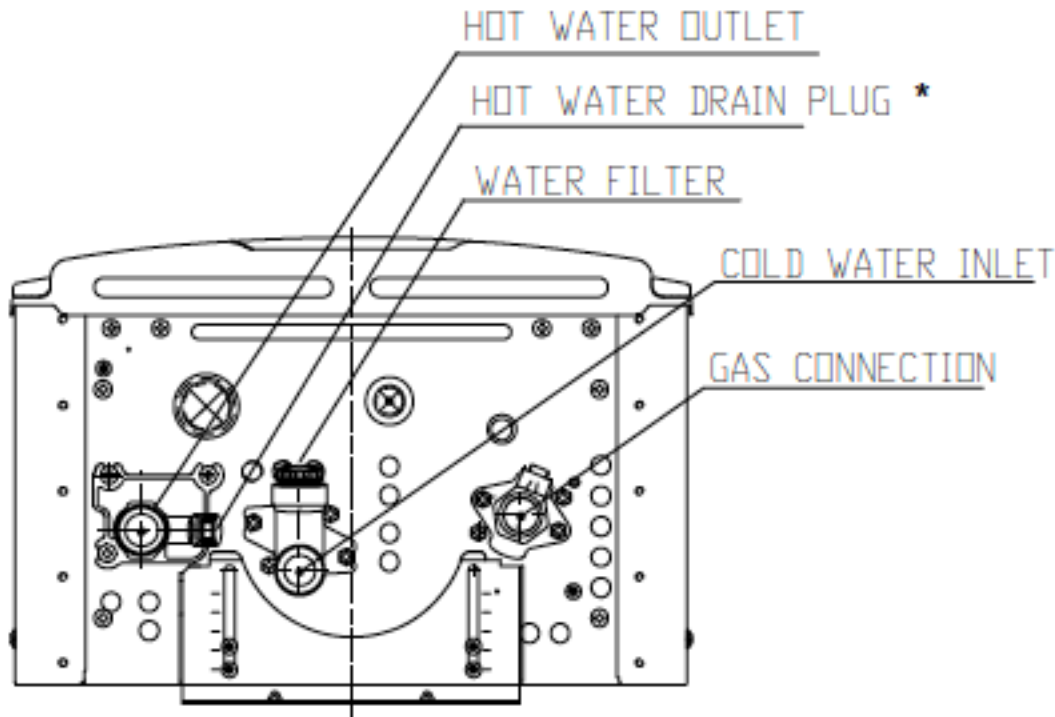


Figure 2

The drain port closed and water introduced to the unit. (See above for locations) The electric connection should be plugged in and the water flow started. Insure that the boiler fires and continues to produce heat as water flows through the unit. The water return side should be dumped down the drain as opposed to trying to simulate recirculation on this test. Check the discharge water temperature for temperature rise. You should observe 15 to 30 degrees temperature rise from entering water temperature to exiting water temperature depending on the water flow rate.

Once tested, disconnect the hoses, drain the unit through drain port, and secure for transport to the jobsite. While the units are built for outdoor construction applications, care should be taken to insure electronics and gauges are not damaged by rough handling or unsecured transport.

Setting the Temperature

On the **120,000 BtuH** unit, the default temperature is set to 120F. There is no external controller to increase or decrease temperature. If you desire the unit to pump 140F, you must remove the cover and set the “dip” switch on # 5 from the off position to the on position. Refer to the manual enclosed separately.

On the **199,000 BtuH** unit, there is an external controller that can be adjust up or down. To adjust the temperature up or down, the PUMP must be OFF. Changing temperature with water flow is not possible. Even if the pump is in the OFF position, but you are flowing water through the unit, you cannot change temperature. Additionally, power must be provided to the unit indicated by the water temperature display lit up.



Figure 3

Manifolds

Your heater comes equipped with a heating manifold. The purpose of this manifold is to couple the heater to the calibration tube or the liner to deliver heated water or steam to the far end of the lined pipe and provide a return port to recirculate or pump and dump the steam or water.

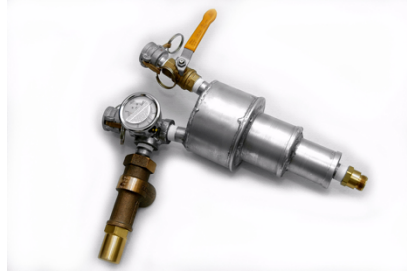


Figure 4



Figure 5

The two manifolds above both serve the same purpose. Figure 4 separates the liner and calibration tube from the Quik Shot unit, allowing the installer to use the nozzle to insert another liner while the liner is curing. Figure 5 allows the operator to remove the nozzle and couple the Dome Head to the top of the nozzle. You will note two hose ports. One port is connected to the hose connection at the bottom end allowing a lay flat hose to be couple to it. The other port is open to the bottom of the device allowing return water or steam. If using the closed loop recirculation water feature, the return hose is connected between the return manifold port and the suction side of the pump port. Follow operating instructions to insure all air is removed from the system before connecting the return port found in the operators manual. If using the Dome Head or Water Manifold for steam (provided by another unit), direct the return hose away from the work area and add a ball valve to control pressure and volume of the steam release.

Hoses

Figure 6 shows the lay flat hose used to recirculate hot water or carry steam to the far end of the liner. The liner is cut to length along with cutting in holes to allow the water or steam to release at the downstream end of the calibration tube or liner. Refer to the Step By Step guide to fabricate the hose for this purpose.



Figure 6

Figures 7 and 8 shows the supply and return recirculation hoses that connects the manifold to the boiler. The hoses come standard in 25' lengths, allowing the installer to get the heater close to the manifold for the recirculation process. The hoses are color coded to help identify the hot water supply side connected to the port that connects the lay flat hose (red). The other is connected to the return side of the manifold and the suction side of the pump (black).



Figure 7



Figure 8

Final Notes

This Owners Manual is meant to identify the basic parts and pieces of the heater unit. Be sure to refer to the heater operator manual and the step by step guide in separate publications to properly operate the system and troubleshoot any field problems you may encounter. *Contact your distributor for technical support.*