LOCK-TEMP STORAGE TANK MAINTENANCE PROCEDURES

The information contained in this manual is intended for use by qualified professional installers, service technicians or gas suppliers. Consult your local expert for proper installation or service procedures.

MAINTENANCE

A new tank installation should have a regular inspection program set up initially. The first inspection should be within the first three months of operation. Once the tendency to accumulate sediment has been established, the inspection program can be modified to suit the water conditions. Typical inspection programs flush the tank at six-month intervals and clean the tank in yearly intervals.

Deliming solvents or acid type flush agents are not recommended for use in lined storage tanks. These chemical cleaners are usually designed for use in non-potable systems such as heating boilers. These chemicals may be aggressive and cause damage to the tank lining and deteriorate the magnesium anodes supplied in glass-lined Lock-Temp storage tanks.

WARNING: ⚠

Hot water will be released under pressure. Avoid contact with the hot discharge water to prevent the risk of severe scald injury.

FLUSHING THE LOCK-TEMP STORAGE TANK:

Since the mineral accumulation is occurring in an un-fired tank it will be in a soft sediment form. This soft sediment can be removed by a regular flushing of the lower portion of the tank.

To flush the tank, follow these steps:

1. Turn off the electricity and gas supply to the finned copper tube water heater piped to the storage tank.
2. Turn off electrical power to the circulating pump.
3. Close the valve on the hot water outlet on the top of the storage tank.
4. Ensure that the drain located on the bottom of the tank is routed to a floor drain with adequate capacity to allow the tank to be flushed.
5. Open the drain valve and allow the incoming cold water to flush the soft sediment out the bottom of the storage tank. Use extreme caution, as the water exiting the tank drain may be very hot. Avoid contact with the hot discharge water to prevent the risk of severe scald injury.
6. Observe the color of the water initially discharged from the tank drain. This water will generally be milky or slightly discolored by the sediment discharge. Allow the drain to run until the water runs clear.
7. Close the drain valve on the tank.
8. Open the hot water outlet valve on the top of the tank.
9. Open an adjacent hot water tap to purge any air that may have entered the storage tank during the draining process. Close the hot water tap if no air discharge is observed.
10. Turn on electric power to the water heater and circulating pump.
11. Turn on the gas supply to water heater.
12. Observe heater and piping to ensure all components are functioning properly.

CLEANING THE LOCK-TEMP STORAGE TANK:

The mineral accumulation in an un-fired tank will be in a soft sediment form that can be removed by a regular cleaning of the lower portion of the tank. Many tanks will have a hand hole or a larger manway to allow access to the interior of the tank for complete removal of accumulated sediment. An access opening to remove the manway or hand hole is provided in the exterior jacket. The sheet metal jacket components are removed with hand tools. The opening will be in the bottom portion of a vertical tank and on the end of a horizontal tank.

To clean the tank, follow these steps:

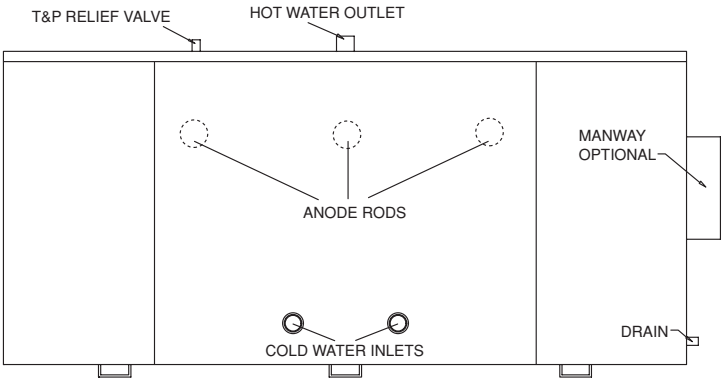
1. Turn off the electricity and gas supply to the finned copper tube water heater piped to the storage tank
2. Turn off electrical power to the circulating pump.
3. Close the valve on the hot water outlet on the top of the storage tank and the cold water supply to the system.

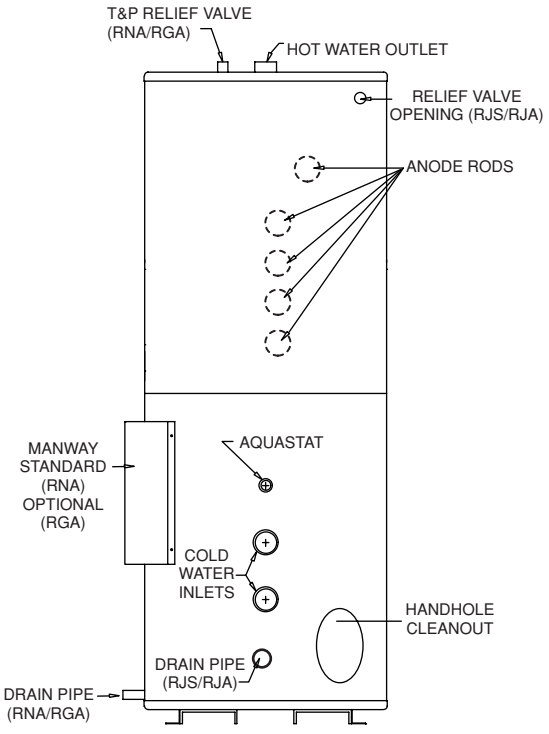
4. Ensure that the drain located on the bottom of the tank is routed to a floor drain with adequate capacity to allow the tank to be drained.
5. Open the drain valve and open a vent to allow the air to enter the tank (manually opening the relief valve will usually accomplish this). Use extreme caution, as the water exiting the tank drain may be very hot. Avoid contact with the hot discharge water to prevent the risk of severe scald injury.
6. Allow the tank to drain completely.
7. Remove the cover over the manway or hand hole. Remove the bolt(s) securing the tank access opening. Use a flashlight to observe the sediment collected in the tank.
8. Use hand tools to remove all sediment from the interior of the tank. Use care not to damage the interior lining of the storage tank.
9. Use a water hose to flush the remaining sediment from the interior surfaces of the tank and ensure that all debris is removed. Scale or sediment allowed to reach the potable system can foul valves, pumps, strainers and other water fixtures. Ensure that the tank interior is clean before refilling the vessel.
10. Install a new gasket on the manway or hand hole to prevent any possible leaks. Tighten the gasket properly to prevent leaks. Caution: Over tightening can result in cutting the gasket and allowing a water leak to occur.
11. Install the jacket cover over the tank access.
12. Close the drain and open the cold water supply and hot water outlet. If the relief valve was used for a vent ensure that it is now closed. Open the closest hot water valve to allow the air in the tank to vent as water enters the vessel. Close the valve opened for a vent when water flows from the valve.
13. Check the manway or hand hole and all related piping for any water leaks.
14. Turn on electric power to the water heater and circulating pump.
15. Turn on the gas supply to water heater.
16. Observe heater and piping to ensure all components are functioning properly.

MAGNESIUM ANODE ROD INSPECTION

Glass lined Lock-Temp storage tanks have a magnesium anode(s) to cathodically protect the lining and minimize corrosion. Aggressive water conditions in some areas of the country may accelerate the deterioration of the anode(s). The anode(s) should be periodically removed and inspected to determine if replacement is necessary.

The tank must be valved off from the system and fully drained to remove an anode for inspection. A single anode is supplied in a threaded coupling on the top head of small vertical storage tanks. Top mounted anodes may be accessed by removing the jacket top. Large vertical storage tanks and horizontal storage tanks have multiple anodes installed in threaded tappings along the length of the tank. These anodes may be accessed by removing a jacket panel and/or corner post corresponding to the mounting point of the anodes. Adequate service clearance is required to allow removal of an anode. The anode(s) should be replaced when more than six inches of the core wire is exposed at either end of the rod.





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