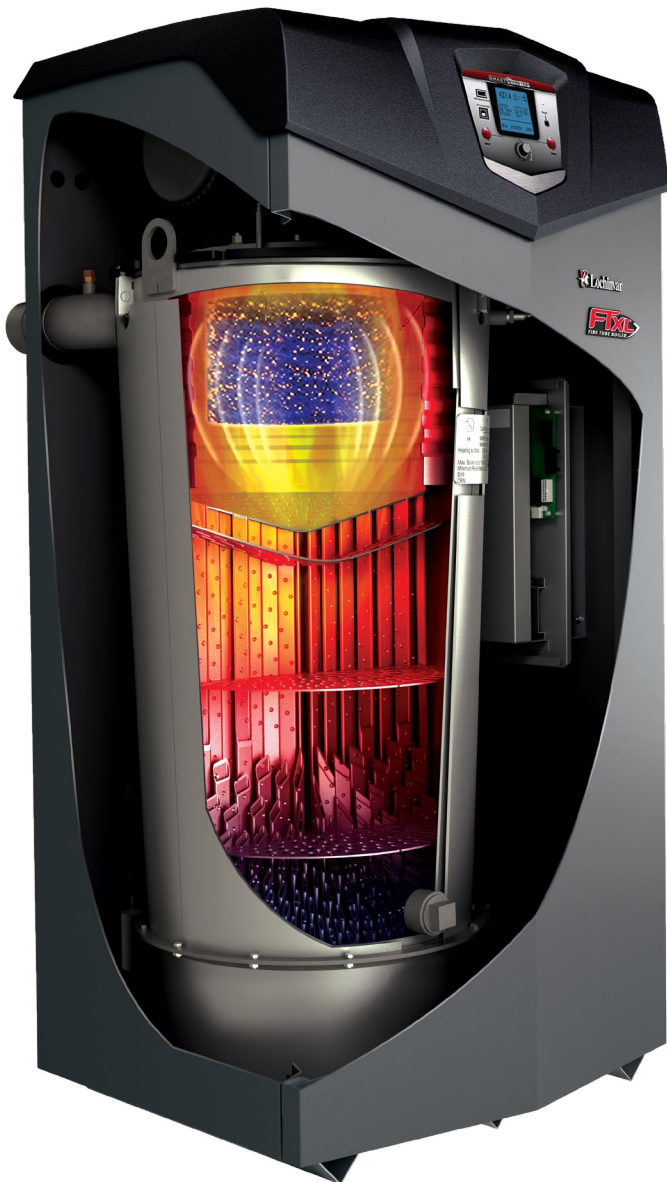


CLEANING INSTRUCTIONS FOR LOCHINVAR[®] FTXL[™] BOILERS WITH SCALEBREAK[®]-MP

When descaling a Lochinvar[®] FTXL[™] you will first need to visit our Lochinvar on-line calculation tool at www.goodway.com/lochinvar. Here you will be able to obtain the proper amount of ScaleBreak-MP and circulation time.

Keeping your Lochinvar boiler clean with ScaleBreak-MP from water formed deposits is essential to efficient operation. Lime scale accumulations are an energy thief and regular preventive maintenance cleanings of your boiler will produce an ROI in reduced gas consumption through clean efficient operation.

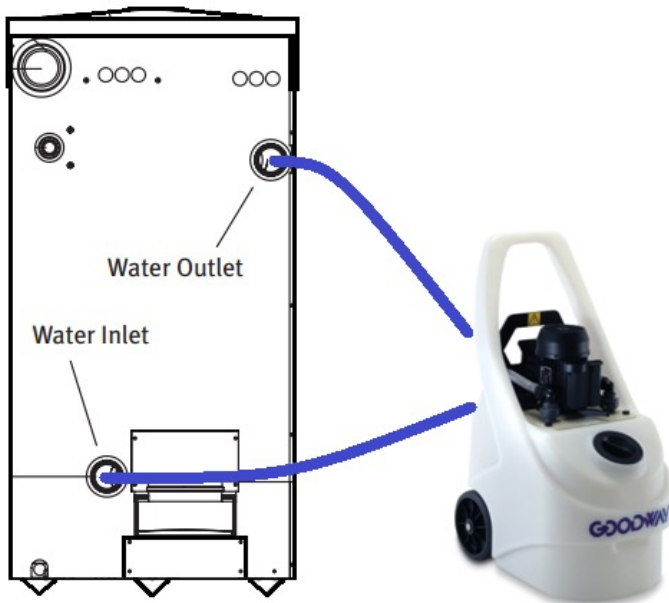


FTXL[™]
FIRE TUBE BOILER

CLEANING INSTRUCTIONS

1. Shut down the boiler and allow it to cool to ambient temperatures.
2. Close all valves and isolate the boiler.
3. Located on the back of your FTXL[™] boiler are two water ports, the water inlet is on the bottom and the water outlet is up near the top. See diagram below. These two ports are where you will hook up the circulation pump system.
4. Depending on which model you have, the ports are NPT threaded and will range from 2" - 2.5" in diameter. To perform your chemical cleaning, two reducers, two 3/4" nipples and two 3/4" ball valves will be required to hook up your circulation hoses.
5. Equip each port with a reducer, nipple, and ball valve.
6. These valves can be closed to isolate the boiler should you need to shut your pump system down during the cleaning.
7. Attach your pump discharge to the water inlet port on the bottom. See diagram.
8. Attach your return hose to the water outlet port up near the top. See diagram.

9. Fill your pump system with water, open your valves, turn your pump on and perform a hydrostatic test. This action ensures the water heater is isolated and none of the ScaleBreak-MP will be needlessly lost.
 10. Once you have determined you have no leaks you will need to bleed off enough water equal to the volume of ScaleBreak-MP required for the cleaning. You can backflush the boiler during this process and flush out any particulate. If you relieve too much water, you can add some back to complete your circulation loop.
 11. Water-formed deposits will occupy volume, as a result, additional water may need to be added during the cleaning duration as deposits are dissolved.
 12. Circulate the ScaleBreak-MP solution for the recommended timeframe as indicated by our calculation tool.
 13. During your ScaleBreak-MP cleaning you will want to make sure your solution remains active. For this step, please follow our "Testing ScaleBreak's Effectiveness" procedure. If the boiler you are cleaning has severe scaling, additional ScaleBreak-MP and circulation time may be needed.
 14. Once you have reached the recommended circulation time and your ScaleBreak-MP solution has completed the job, you can begin your flushing process.
 15. Though ScaleBreak-MP is a biodegradable solution, most facilities need to conform to pH discharge limits. ScaleBreak Neutralizer can be utilized to safely elevate your pH to meet your discharge limit so it can be flushed to the drain. Please follow the instructions for this process in the ScaleBreak Neutralizer information sheet.
 16. To flush your boiler, turn off your circulation pump, remove the return hose from your recirculation system and put it in a drain.
 17. Add a freshwater hose to your recirculation bucket on your pump system and turn the pump back on.
 18. Continue running clean water through the boiler until the return water is running clear. This action will also flush out your pump system.
 19. As an added flushing safeguard, you can reverse the flow with the lever on the GDS C-40 or C-92 pump system. This action will flush away any debris that may have settled out in the bottom of the boiler.
 20. Open the bottom drain to ensure all chemical and water has been evacuated from the boiler.
 21. Disconnect your hoses, remove the reducers and valves and reconnect your water inlet and outlet.
 22. Your boiler can now be returned to service.
- ✓ As a helpful reminder, the Smart System within your Lochinvar boiler has a countdown clock. Depending on the water quality feeding the boiler, you can set a descaling reminder so efficiencies remain high.



PLEASE NOTE:

- Follow all local regulations for discharge.
- Follow all plant personal protective equipment guidelines as determined by your health & safety team.
- ScaleBreak formulas have very minimal corrosion rates, however, the application of ScaleBreak may reveal pre-existing under-deposit corrosion (UD). This type of corrosion can present itself in the form of pitting, pin holes or similar types of damage.

Please contact Goodway Technologies with any questions.