



4 TIPS TO EXTEND THE LIFE OF A BOILER

SEASONAL BOILER MAINTENANCE CAN HELP YOUR RESIDENTIAL CUSTOMERS IMPROVE EFFICIENCY AND PERFORMANCE, YEAR-ROUND.

Like a car, a residential boiler must be regularly serviced to prevent problems and maintain efficiency.

But unlike a car, a boiler doesn't cough, stutter, give off smoke or produce a foul odor when something goes wrong — it just silently continues doing its job, slowly deteriorating in performance and failing much sooner.

Use these tips to prevent problems and keep your customers' boilers in tip-top shape year-round.

Perform pH testing.

For a boiler to operate properly, the liquid it contains must maintain the correct pH levels. Do a visual reading by opening the drain valve and bleeding off some liquid. If it appears clear, proceed with a pH test.

The correct pH level depends on the composition of the heat exchanger. Systems with a cast iron, stainless steel or copper exchanger are resilient and usually have a wide range of acceptable levels. Aluminum is more prone to corrosion and may require a specific pH



number. Read the boiler's installation and operation manual to determine the acceptable pH range.

Next, test the system. You can buy test strips that provide a color-coded readout. If you need a more precise reading for an aluminum system, use a digital pH meter.

If the pH level is off:

- Drain about a gallon of liquid from the boiler and dispose of it.
- Fill a container with a quart of corrosion inhibitor, such as Hercules® Sludgehammer™ Universal Corrosion Inhibitor, and 3 quarts of fresh water. Pump it back into the system and allow it to circulate for about a half-an-hour.
- Test again. Usually, a single dose of inhibitor does the job, but if the reading is still too low, repeat the process.

Discard sludge.

If the first liquid sample in your visual reading contains rust or sludge, you must take a more aggressive approach. Sludge indicates corrosion in the heat exchanger, fittings or piping.

To remove sludge:

- Drain off about a gallon of liquid and replace it with 3 quarts of water and 1 quart of a system restorer like Hercules® Sludgehammer™ System Restorer & Noise Reducer, which removes scaling and sludge deposits.
- Let the solution circulate for two hours.
- After 2 hours of cycling, dump the system. Leaving the chemical in for too long can damage metal pipes and fittings and ruin the heat exchanger. Then, refill the system with a blend of water and inhibited virgin propylene glycol to prevent corrosion and scale buildup inside the heat exchanger and piping system. Always reference the boiler manufacturer's installation and operation manual to ensure you are using the proper blend.

Add antifreeze.

Many contractors only use water in indoor heating systems. However, water freezes at 32 degrees and can cause pipes to burst if there's a power outage. Water also promotes corrosion and buildup. Adding an inhibited virgin propylene glycol antifreeze to a boiler corrects for those problems and provides freeze protection. Installing inhibited virgin propylene glycol into the hydronic system is also a requirement to maintain warranty by leading boiler manufacturers.

The type of antifreeze you'll need to use depends on the climate and the metal content of the system.

- For cast iron, stainless steel or copper systems, choose an antifreeze solution like Hercules® Cryo-Tek™ AG, -100, Original or Universal.
- For systems with aluminum heat exchangers, the best choice is an antifreeze that works with any type of metal, such as Hercules® Cryo-Tek™ Universal.
- Depending on the level of freeze protection required to have an effective and efficient operating system, you can choose blends like Cryo-Tek™ AG or Universal and blend them with distilled water to arrive at the proper freeze protection, or buy pre-blended formulas like -100 or Original.

The active ingredient of antifreeze is propylene glycol. Avoid antifreeze products that contain "used" propylene glycol, which may introduce minerals and other foreign particles to the boiler. Look for a label that reads "inhibited virgin propylene glycol."

Conduct annual checkups.

Without proper maintenance, boilers corrode and become less efficient, leading to additional service calls and a shorter life span for the appliance. Replacing a boiler is very expensive, costing thousands of dollars.

Homeowners can save money long-term by having a boiler serviced annually. The best time to do it is just before the start of the cold weather season. Spending a little money every year will maximize the life of the boiler and prolong a big expenditure.



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