When a water heater starts making strange noises, it really gets your attention. One day it is quiet, and the next it is popping, rumbling, hissing, or ticking in ways that make you think something is about to go very wrong. Those sounds are not always dangerous. Sometimes they are a sign that something is wrong and will cost a lot of money if you don't pay attention to it. And sometimes they mean that something needs to be fixed right away.

The sound alone doesn't always make it clear what the difference is between those three outcomes. Learn to recognize common noises made by water heaters, figure out what causes them, and decide how quickly to fix them.

Sounds That Mean Your Water Heater Is Working and Sounds That Mean There's a Problem

It's helpful to know the baseline before you start working on specific noises. A water heater that works doesn't make any noise. Some sounds are normal for it to make while it's working and don't mean anything is wrong.

Normal sounds include: A gas unit makes a soft hiss when the burner lights up. The heating elements on an electric water heater make a low hum. A soft ticking or clicking sound as the metal parts get bigger from the heat. When you turn on the tap, you can hear a soft whooshing sound as hot water moves through the pipes.

Sounds that warrant attention include: Sounds that need to be looked into include loud popping or rumbling during heating cycles. A screech or whine that sounds like a tea kettle. Banging or knocking. A sound like running water when no taps are open. The unit itself keeps hissing instead of the pipes.

The difference is in how loud, how often, and whether the sound is new. A noise that your water heater has always made is less of a problem than one that just started. If you hear a noise that gets louder over weeks or months, it means something is changing inside the unit.

The most common sound a water heater makes is popping or rumbling.

If your water heater makes a popping, rumbling, or kettling sound while it heats up,

sediment buildup is almost certainly to blame. This is the most common complaint about water heater noise, and it’s also the easiest to explain.

Calcium and magnesium carbonates, which are dissolved minerals, will eventually settle and build up at the bottom of your tank.

In addition to the noise, sediment buildup has real-world effects. It keeps the heating element or burner from coming into contact with the water above it, which makes the unit work harder and longer to reach the desired temperature. This makes things less efficient, uses more energy, and speeds up the wear and tear on the heating parts.

What to do

The usual solution is to flush the tank. Connect a garden hose to the drain valve at the bottom of the unit, run the other end to a floor drain or outside, open the drain valve, and let the tank drain completely or partially. The rushing water takes dirt and other things with it. A thorough flush often cuts down on or gets rid of the popping and rumbling noise.

A single flush may not be enough to fix tanks that have a lot of sediment buildup. You may need to flush it several times in a row or have a professional do it.

It sounds like a tea kettle when the water heater is on.

A high-pitched whining or screeching sound that sounds like a boiling kettle is a different problem than sediment rumbling and needs to be fixed right away.

This sound usually means that water or steam is being pushed through a small opening under pressure. A partially closed inlet valve, a pressure relief valve that isn’t working or is stuck, or scale buildup around the heating element on an electric unit that slows down water flow are the most common causes.

The pressure relief valve (T&P valve) is a safety feature that lets off pressure if the tank goes over safe levels. This is something that needs to be dealt with right away, not put off.

What to do

First, check the valve that lets the pressure out. A discharge pipe that goes down usually connects to it on the side or top of the tank. If the valve is leaking or letting out steam, or if the pipe feels hot, the valve may be working under high pressure. Don’t ignore this. If you need to, call a licensed plumber to check the unit, test the pressure, and change the T&P valve.

Also, make sure that the valve for the cold water inlet is all the way open. A partially closed inlet valve slows down the flow of water and can make a whistling or tea kettle sound as water is pushed through the small opening.

When nothing is on, the water heater sounds like water running.

If you hear what sounds like water running inside or near your water heater when no taps are open and no appliances are using water, you should look into it right away. There are a number of reasons why this sound could be happening, some of which are not serious and some of which are.

Thermal expansion: When water gets hotter, it expands. This is called thermal expansion. When water expands in a closed plumbing system with a backflow preventer or check valve, it has nowhere to go but back into the tank. This can make a faint running or dripping sound. This happens more often in newer homes that were built according to updated plumbing codes that require backflow prevention.

A slow internal leak: A slow leak inside: A crack or pinhole in the lining of the tank can let water through the inner wall, which can make a sound like running or dripping. This is a very important finding. If the tank is leaking from the inside, the only thing you can do is replace it. You can’t fix a tank under pressure by welding or patching it.

A running check valve or pressure relief valve: If they are partially open or cycling, either one can make a sound like running water.

What to do

Check the ground around the bottom of the water heater for dampness, rust stains, or puddles of water. Look for signs of dripping in the pipe that comes out of the pressure relief valve. If you can’t find an obvious outside source for the noise and it keeps happening, call a plumber to check the unit. If you catch a tank that is leaking from the inside early enough, you will have time to plan a replacement. A situation that goes unnoticed until it breaks down completely is much worse and messier.

Electric Water Heater Sounds: Humming and Sizzling

Electric water heaters make a different sound than gas ones because their heat source is submerged heating elements instead of a burner under the tank.

Humming: A low hum from an electric water heater is usually the upper or lower heating element vibrating a little bit in the water. This happens a lot and is usually not dangerous. If the hum is loud enough to be annoying or has gotten louder recently, the element may have built up scale and is working harder than it needs to. Replacing the element gets rid of the noise and makes it work better.

Sizzling or hissing from the element: If the element is sizzling or hissing, it may be because scale has built up on it, just like it does in a kettle. When water touches the hot, encrusted surface, it makes a sizzling sound. This lowers the element’s efficiency and means that either descaling or replacing the element is necessary.

Popping specific to electric units: Electric units make a popping sound that is similar to the one described above, but it may sound a little different because the heating element is inside the tank instead of underneath it.

The water heater makes a cricket or ticking sound.

A water heater that makes a light ticking, clicking, or cricket-like sound is almost always caused by either the normal thermal expansion of the metal pipes and tank shell or a broken heat trap nipple.

Thermal expansion ticking happens when the metal parts of the tank and the pipes that connect to it heat up and cool down during the daily heating cycle. When metal is heated, it expands, and when it cools, it contracts. This movement against pipe straps, hangers, or other surfaces makes ticking and clicking sounds. This is perfectly normal and doesn't mean there's anything wrong with the unit.

Modern water heaters have small fittings called heat trap nipples at the water inlet and outlet. These fittings keep heat from escaping through the pipes when the heater is not in use. There is a small check ball inside that moves with the flow of water. If these fittings wear out or build up deposits, the check ball can rattle or click against its seat, making a sound that keeps going. Replacing the heat trap nipples is an easy fix that gets rid of this noise.

The water heater makes noise like a washing machine.

If you hear a loud knocking, banging, or rumbling that sounds like an unbalanced washing machine, it could be because there is a lot of sediment building up, which causes violent steam bursts, or because of water hammer in the supply pipes.

Water hammer is the noise that happens when water flow stops suddenly, like when a valve closes quickly. The moving water has to go somewhere, and it makes a shockwave that sounds like a loud knock or bang when it hits the pipe. Water hammer is a problem with the plumbing system as a whole, not just the water heater. However, it is often heard near the water heater because that is where the supply pipes are easiest to get to and hear.

Putting water hammer arrestors on the supply lines close to the valves that are causing the problem fixes the problem without having to do anything to the water heater itself. These fittings are cheap and can be found at any plumbing supply store. Most of the time, you can install them yourself.

Is a Water Heater That Makes Noise Dangerous?

Most of the sounds that water heaters make aren't dangerous right away. Sediment rumbling, thermal expansion ticking, and element humming are annoying noises, but they aren't dangerous. However, if they aren't fixed, they can mean that the unit's lifespan and efficiency are getting worse.

The sounds that need immediate attention are those that have to do with pressure problems. If you hear a tea kettle screeching, a hissing sound from the pressure relief valve, or any other sign that the T&P valve is releasing pressure, it could mean that the unit is working at a higher than safe level of pressure. These situations need to be looked at by a professional right away.

If your water heater is too hot, making steam from the relief valve, bulging or bending the tank, or leaking from the base, you need to act quickly. Call a licensed plumber right away and turn off the gas or electricity to the unit and the cold water inlet valve.

For broader guidance on home systems maintenance and improvement, the home improvement section at Home Narratives covers practical advice on managing and maintaining every major system in your home.

The U.S. Department of Energy's water heater maintenance guide provides authoritative guidance on maintenance schedules, safety checks, and efficiency optimization for both gas and electric water heaters.

Frequently Asked Questions

When should you be concerned about water heater noise?

If you hear a noise that is new, getting louder, or comes with visible signs like water pooling near the unit, a dripping pressure relief valve, or the smell of gas near a gas water heater, you should be worried. It's normal for sediment to make popping and rumbling sounds, and you can deal with them, but you shouldn't ignore them forever. If your tea kettle is screeching, the relief valve is hissing, or there is knocking that happens when the pressure changes, you need to call a professional right away.

Why is my water heater making noise when no water is running?

There are a number of reasons why a water heater makes noise even when no taps are open. The most common thing that happens is that sediment breaks through the layer at the bottom of the tank during a heating cycle. The tank and pipes expand as the heating cycle runs, which also makes ticking and clicking sounds. A

broken pressure relief valve or heat trap nipple can make noise even when water isn’t being drawn. If you hear what sounds like running water, look for a slow leak around the unit’s base and the pipe that lets out the relief valve.

How do you know if your water heater is about to burst?

Before a water heater breaks down completely, it usually shows a number of warning signs. Some of these are a pressure relief valve that is leaking or releasing steam over and over, visible rust or corrosion on the tank body, water pooling around the base all the time, a gas unit that smells like sulfur or rotten eggs, which means it isn’t burning properly, or the tank not making hot water even though the unit is running. If you see any of these signs, you should call a professional right away. A single dramatic failure mode, like a loud bang followed by flooding, is less common than symptoms getting worse over time.

How do you get a water heater to stop making noise?

The noise is what determines the fix. Flushing the tank, ideally once a year as a preventive measure, will stop the popping and rumbling from the sediment. There is no need to do anything about ticking from thermal expansion because it is normal. Replacing the fitting fixes the ticking sound coming from a heat trap nipple. Descaling or replacing the electric heating element will make it less likely to hum. If you hear whistling or tea kettle sounds because of low flow or pressure, you should call a professional. Water hammer arrestors on the supply lines stop the knocking that comes from water hammer.

A water heater that makes a lot of noise is almost always trying to tell you something. The sound is a sign of something wrong, and finding the right cause will lead you to the right solution without spending too much money or making you worry. Most of the time, the problem can be fixed with simple maintenance. It is sometimes a repair. It is very rare that it is a replacement. But ignoring the noise and hoping it goes away on its own won’t help any of those things.

How does your water heater sound now, and when did you first notice it? Almost anything else would take longer to figure out what caused it.