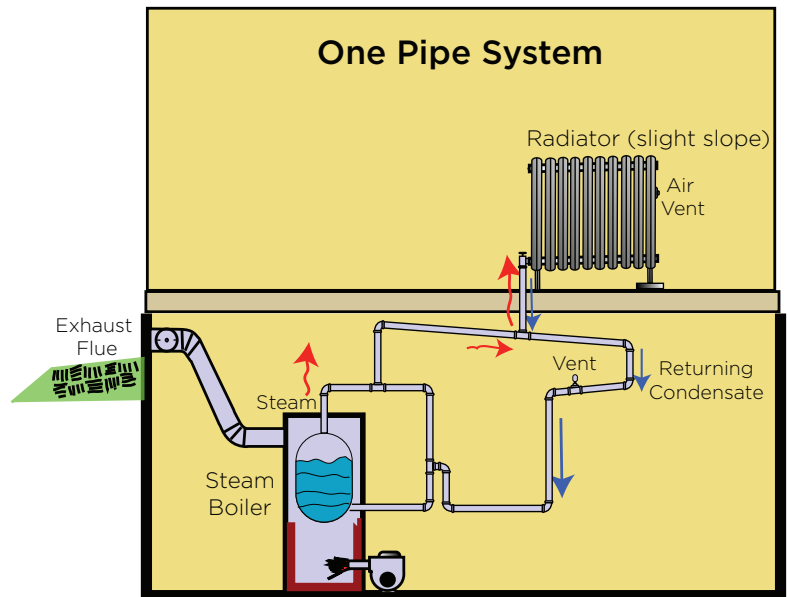


Steam Heating

Steam heating is not commonly found in most modern houses, although you can still find this system in some older homes. A steam heating system is identifiable by a water-level sight glass located on the side of the boiler. Hot water heating systems do not have a sight glass. Although steam heat is not a modern system, with proper maintenance it can function reliably.

How Does Steam Heat Your Home?

The heat-transfer process for steam involves condensation (turning steam into water) inside each room's radiator, a process that releases an enormous amount of heat energy (latent heat). In contrast, a hot water system releases heat into the room as the water in the radiators cool. These are fundamentally different processes. For this reason, steam radiators are much smaller than corresponding hot water heating radiators.



One-Pipe Steam System

Most steam heating systems found in single-family homes have only one pipe attached to the radiator. The boiler heats the water to the boiling point, thus generating steam. The steam rises through the pipe towards the radiator. An automatic air vent located on the radiator lets out the air inside the radiator, allowing it to fill with steam. Steam condenses in the radiators and releases heat. The condensate (water) generated in this process runs back down the same pipe towards the boiler for re-boiling.

Two-Pipe Steam System

The radiators for a two-pipe system look a little different. The steam enters the radiator through one pipe and water flows out another. The condensate pipe is usually smaller than the steam pipe, and the radiator does not have an air vent since on a two-pipe radiator air can flow out the water pipe, leaving the system further along the line at a steam trap.

Converting Steam to Hot Water

A well-maintained steam system is reliable, but you may still have your own reasons for wishing to convert to a hot water system. Hot water systems are more efficient. Although conversion from

steam to hot water is possible, a note of caution here – a poorly executed conversion will be problematic at best because the existing pipe sizes and configuration are likely inadequate for hot water heating. In many cases, the most economical approach to an upgrade involves a new steam boiler, thus avoiding a conversion of the entire steam system.

If you are adamant about changing, consider complete replacement of the old system rather than makeshift upgrades. If you are renovating anyway, definitely remove and replace rather than upgrade.

A specialist can look at your system and determine the best course of action: conversion, replacement or status quo.

Maintenance

A steam system needs a good technician to get it operating properly. However, steam-system technicians are hard to find, so if you find a good one, hang on to him or her.

- Have an expert technician inspect and service the system every year prior to the start of the heating season.
- Do not “bleed” the radiators (turning an air valve on the radiator to release air). Steam radiators are purged of air automatically every time steam flows into them.
- Do not adjust the air vents, or open and close supply valves. Some are user adjustable and some are not. Ask your service technician to explain any adjustments to you.
- Do not paint the air vent lest you block the hole that purges air.
- Some systems benefit from periodic clearing of sediment. Ask the technician if and how you can do the cleaning yourself.

What’s old is not always bad. Before you spend money converting your steam heating system, get an expert to tell you more about it first, especially how to maintain it.

