



# Water Heater Buying Guide

March 2016

## Find The Best Water Heater

If your water heater has a 12-year warranty and it's been in service for 15, it might be time to get a new one. In homes with hard water, which can be tougher on water heaters, a heater may fail within the warranty period.

If you haven't replaced your water heater in a few years, you'll find more choices—and more energy-efficient regulations—so do your homework. You may have to spend more up front for a model that will save you money over time.

Water heating amounts to nearly 20 percent of a home's energy costs. As the result of new efficiency standards, water heaters under 55 gallons will see about a 4 percent boost in efficiency, while water heaters 55 gallons or more may cut your utility bills by 25 to 50 percent depending on the technology used.

It's wise to consult a professional or a manufacturer to fully understand the new regulations. Note: We don't currently have Water Heater Ratings, but are able to offer this buying guide, which contains helpful tips and advice.

## Consider Capacity

Most water heaters are sold on the basis of how many gallons they hold. A family of four, for instance, might take several showers, run the dishwasher, and wash a load or two of laundry in an average day, totalling 100 gallons of hot water or more. But that doesn't mean they need a 100 gallon storage tank.

It's more important to consider the first-hour rating (FHR) for storage-tank water heaters and the gallons-per-minute rating (GPM) for tankless water heaters because that's what tells you how much hot water the heater can deliver over a set period of time, i.e., the first hour.

After that, depending on how quickly you're using up hot water, it could either become less hot or actually cool. It would then take a certain amount of time (variable by model and capacity) to return to its full FHR. A pro can help you calculate how much capacity you'll need.

And while an on-demand water heater doesn't "hold" any water (unless it has an auxiliary tank), it has a rating of how much hot water it can produce in a given period, known as the GPM (for Gallons Per Minute). You get continuous hot water unless you draw from multiple sources at once, e.g., a shower and the dishwasher. If you frequently do this, you might consider two units.

And don't assume a new water heater will fit where your old one was. Because of increased insulation and other efficiency improvements, some newer models may be wider and/or taller than your old water heater.

### PEAK CAPACITY COMPARISON

Based on your household's hot water usage during prime hours—for instance, when everyone is trying to shower and get out of the house in the morning—you'll need either a smaller or a larger model.



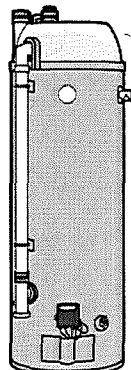
**UP TO  
55 GALLONS**

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2 showers = 40  
1 shave = 2  
1 food prep = 5

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TOTAL = 47 GALLONS FHR



**OVER  
55 GALLONS**

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3 showers = 60  
1 shave = 2  
1 food prep = 5  
1 load of laundry = 32

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TOTAL = 99 GALLONS FHR

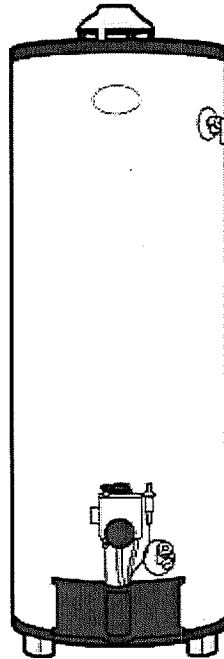
Illustration: Chris Philpot

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## Types of Water Heaters

Depending on how much hot water you use and how you're heating the water (gas, oil, electricity), there are several choices. Some types claim to cut energy costs by up to half that of regular storage models. But their added up-front costs mean its payback might take a while.

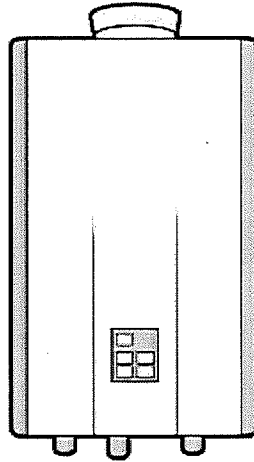


## Storage Tank Water Heater

Storage tanks are the most common type of water heater. As the name suggests, these consist of an insulated tank in which water is heated and stored until needed, then emerges from a pipe on top of the water heater.

There is also a temperature and pressure-relief valve, which opens if either exceeds a preset level.

Natural gas water heaters typically use less energy and cost less to run (by about half) than electric water heaters, although you should note that gas models cost more at the time of purchase.

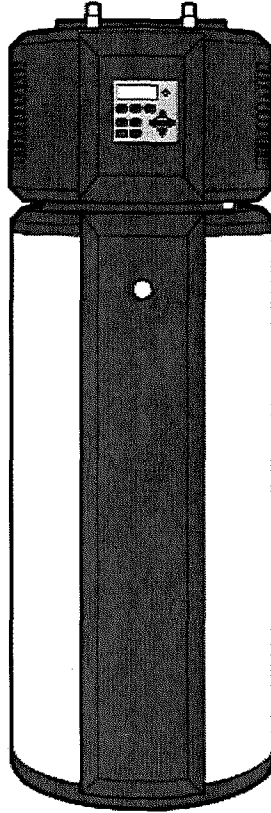


## **Tankless (On-Demand) Water Heater**

Rather than storing water, tankless water heaters use heating coils to heat the water as you need it. They're more energy-efficient than a storage tank, but provide only a limited flow of hot water per minute—about 3.5 gallons.

They're best for people who typically aren't drawing water for more than one use at a time—running a shower and dishwasher simultaneously.

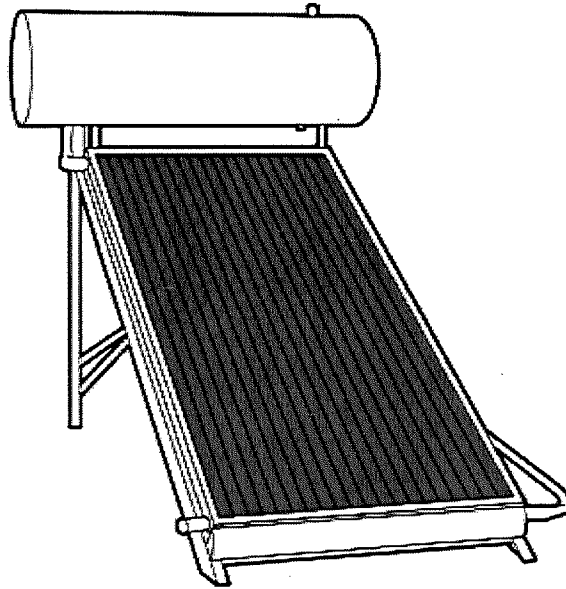
Tankless models are best for homes that use natural gas to heat the water; electric models might require an expensive upgrade of the home's electrical capacity.



## Heat Pump (Hybrid) Water Heater

These capture heat from the air and transfer it to the water. They use about 60 percent less energy than standard electric water heaters. And while they cost more than electric-only models, installation is similar and payback time is short. But they don't work well in very cold spaces and need to be placed in an area that stays 40 to 90 degrees.

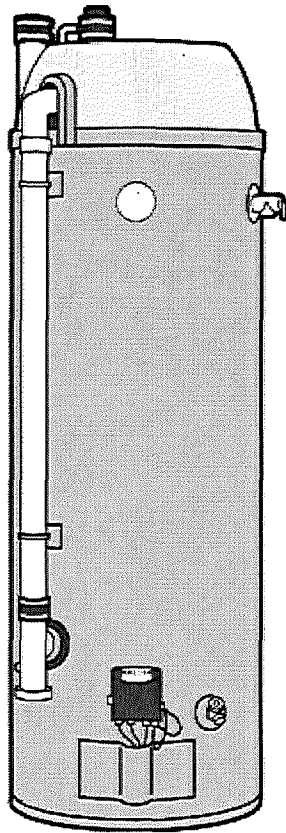
And because the heat pump is on top, a hybrid water heater needs as much as 7-foot clearance from floor to ceiling. You'll also need up to 1,000 cubic feet of uncooled space to capture enough heat from the air as well as a nearby drain to discharge the condensate.



## Solar Water Heater

A roof-mounted cell absorbs the sun's heat and transfers it to an antifreeze-like fluid in a closed-loop system that runs to the water tank. The best deliver stellar savings in summer, making them attractive for warm, sunny regions. But savings suffer on cold and cloudy days. Most models employ a backup system that kicks in when needed.

Even with federal and local rebates, what you'll spend to buy and install a solar system can mean you wait 10 to 30 years to recoup your costs.



## Condensing Water Heater

Condensing water heaters are an option if you heat with gas and need a unit with a capacity of more than 55 gallons.

These models have a tank like a conventional water heater, but capture exhaust gases that would normally go out the flue, which wastes energy. These gases are blown through a coil in the base of the unit, where incoming cold water can absorb most of the heat.



## Features to Consider

**Warranty:** Coverage for most water heaters typically runs 3 to 12 years. While you'll usually pay a bit more for longer-warranty models, we've found that they tend to have larger elements or burners that can speed up water heating and thicker insulation for less heat loss. Choose a water heater with the longest warranty available.

**Anti-Scale Devices:** Some brands advertise features that are supposed to reduce buildup of mineral scale at the bottom of the tank by swirling the water. While scale can shorten the life of the heating element, you don't need to invest in fancy features to get a long-lived water heater. Just look for one with a 12-year warranty, which typically includes a longer or thicker element.

**Brass vs. Plastic Drain Valves:** These are situated near the base of the water heater for a garden hose for draining the heater. Look for brass drain valves, which are more durable than plastic.

**Glass-Lined Tanks:** Designed to reduce corrosion.

**Digital Displays:** Help you monitor levels and customize operation. Some electric/heat-pump hybrid water heaters let you set a vacation mode that uses just the heat pump for added efficiency when you're away. Displays on solar water heaters often show tank and collector temperatures, along with pressure readings and other info.