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Tankless water heaters can be a money-saving change

Popular in Europe, they cost more to buy, but less to use because they heat water on demand.

*Have a question on real estate or home improvement?
Here's where we answer them.*

Question: *Why aren't tankless water heaters used more in the United States? Although their initial cost is high, their potential long-term savings is significant.*

I've been thinking about replacing my aging tank unit with a Bosch tankless unit. When I inquire about them, plumbers appear to act like there is some secret to them.

I've spoken to more than a few people who have spent time in Europe, where they're quite common. Is there something I don't know?

- P.G.

A: Although tankless water heaters have been in use in Europe and Asia for years (I used what is called "an electric shower" in Ireland for the first time in 1992), they have appeared in the United States only in the last few years.

It was in January of this year that tankless, or "demand," heaters also made the list of 10 top technologies chosen by PATH, the Partnership for Advancing Technology in Housing, a public-private initiative administered by the U.S. Department of Housing and Urban Development.

A few plumbers with experience in older tankless models complain that the heating coils are prone to rusting, but I think improvements have been made in the newest generation to prevent the problem.

A lot of plumbers, as is the case with a lot of other contractors (and most people), tend to be set in their ways. It is much easier to pick up a tank water heater at the plumbing-supply house, take out the old one, and put in the new than it is to devote time to learning about alternatives.

Still, you need to remember that it is what you want, not what the plumber wants, because you are the person paying and the one who will be using the water heater.

Tankless units heat and deliver water on demand. Cold water is circulated through a series of burners or electric coils that heat the water as it passes through. There is no storage tank.

Tankless units cost more than storage heaters, but since you are not heating a big tank of water 24 hours a day, they cost less to operate.

Heating water accounts for 20 percent or more of a typical household's annual energy expenditures, according to the U.S. Department of Energy. The yearly operating costs for conventional storage-tank water heaters average \$200 for gas units, \$450 for electric ones.

Storage-tank water heaters raise the water temperature to the setting on the tank, usually between 120 and 140 degrees, and maintain it there.

Even if no hot water is drawn from the tank (and cold water enters the tank), the heater will operate periodically to maintain the temperature.

This is the result of what are called standby losses - the heat conducted and radiated from the walls of the tank and, in gas-fired water heaters, through the flue pipe. Standby losses represent 10 percent to 20 percent of a household's annual water-heating costs.

By providing hot water immediately where it is used, tankless heaters waste less water: You do not need to let the water run as you wait for warmer water to reach a remote faucet.

Equipment life may be longer than with tank-type heaters because tankless models are less subject to corrosion. The expected life of tankless water heaters is 20 years, compared with 10 to 15 years for tank-type heaters.

Tankless heaters range in price from \$200 for a small under-sink unit to \$1,000 for a gas-fired unit that delivers 5 gallons per minute. Those numbers do not include installation, which can add \$150 to \$300 to the price.

Typically, the more hot water a unit produces, the higher the cost. Electric tankless heaters typically cost more to operate than gas units.

Some drawbacks to demand water heating are:

Unless your demand system has a feature called modulating temperature control, it may not heat water to a constant temperature at different flow rates. That means that water temperatures can fluctuate uncomfortably - particularly if the pressure varies wildly in your water system.

Electric units will draw more instantaneous power than tank-type water heaters. If electric rates include a demand charge, operation may be expensive.

Electric units also require a relatively high power draw because water must be heated quickly to the desired temperature. Make sure your wiring is up to the demand.

- A few weeks ago, I wrote about ways to clean butcher block. A reader offered this suggestion:

My father owned a couple of delicatessens with butcher blocks that he used every day. He used kosher salt to "scrub" them down, using a wire bush to scrub them.

Salt killed the bacteria.

Have questions for Alan J. Heavens. Send them to Box 8263, 400 N. Broad St., Philadelphia 19101 or aheavens@phillynews.com.