



## Tankless water heaters draw hot and cold responses

Saturday, July 29, 2006

By Bob Batz Jr., Pittsburgh Post-Gazette

Want a tankless job?

That's a question homeowners can face when it's time to choose a water heater, and it's not an easy one to answer.

More people than ever are considering and buying tankless heaters. Also known as "demand" and "instantaneous," they fire up only when you or an appliance opens a hot water valve; the water is heated as it flows past the gas burners or electric coils, which turn off after the water does. There's no tank; today's suitcase-sized units mount on an exterior wall, even, in warm climes, outdoors.

Traditional "storage" water heaters, like the one you probably take for granted in your basement, store 30 to 75 gallons in a tank and periodically fire to keep the contents hot, whether you're using water or not. So even though most tanks now are insulated, they waste some energy.

Manufacturers say that because of their lower "standby energy loss," tankless models use less gas or propane or electricity -- saving as much as 50 percent on what you spend to heat water. (And according to the U.S. Environmental Protection Agency, heating water can be 15 percent to 25 percent of your total utility bills.)



Linda Svendsen, "Bungalow Details: Interior"

**The Ruud instantaneous water heater, found in a Pasadena, Calif., home, is similar to those in homes here.**

[Click photo for larger image.](#)

### Related article

■ [Ruud water heater from flapper era is still cooking](#)

Makers also gush that with tankless heaters, the hot water, well, gushes and never runs out.

Sounds great, right?

But that's where the issue of tank vs. tankless starts to heat up, as some say the latter may not be much more fuel efficient in actual use and don't save money, not when you figure in their higher cost, higher installation cost and maintenance.

"If you're not concerned about getting a payback on your investment, buy one," says Tim Carter, a nationally syndicated columnist who runs the Web site [www.askthebuilder.com](http://www.askthebuilder.com). The master plumber says his 2003 column debunking some savings claims is the second-most controversial one he's done in more than a decade, but he remains a skeptic, calling tankless heaters good if you need an "endless" supply of hot water, but not good if you have limited dollars.

### **Costly to install**

Interest in the new technology has flared in these energy-aware times, and manufacturers have fanned the flames by touting tax savings: Thanks to the Energy Policy Act that went into effect this year, installing an efficient gas, oil or propane water heater (with an Energy Factor rating of .80 or higher) can qualify you for a \$300 federal income tax credit.

But tankless water heaters cost hundreds of dollars more -- say, two to five times more -- than traditional ones. Installing one in your home requires direct-to-outdoors venting and could require expensive additional work such as bigger gas lines and/or electrical upgrades -- work that could ching up to hundreds or thousands more.

While a tankless water heater doesn't waste energy heating water when you're not home, it uses a *lot* of energy when it's working. So much so that with a gas-powered one, you need to make sure your home has an adequate gas supply.

More than one expert has pointed out that because the hot water never runs out, people might actually use *more* hot water, and thus waste power and water.

This type of heater may seem new, but it's been common for decades in Asia and Europe and long has been available in this country, too. Beefier old versions still are working in some Pittsburgh homes decades after they were installed. But, as Americans shifted from baths to showers, tank heaters, which delivered more consistent temperatures and were cheaper, became the standard.

### **Energy efficient**

Tankless heaters are more energy efficient than tank heaters -- the U.S. Department of Energy says 24 percent to 34 percent more so for homes that use 41 gallons or less of hot

water daily, and 8 percent to 14 percent more efficient for homes around 86 gallons per day.

Manufacturers have been trying to fire up the U.S. mass market, and sales are up dramatically, but according to a recent report by the New Buildings Institute, of the 5 million gas water heaters sold here very year, less than 2 percent of them are tankless. Many people want to help change that.

"We got to teach people how much they can save off of these," says Mark Bright of Energy Reduction Inc., a McKees Rocks distributor. "It's educating the plumber on these, too."

His company, which started by selling tankless heaters 25 years ago, now sells models by **Noritz** and Bosch. There are several other makers, including Paloma, Rinnai and Takagi. You can also buy them at big-box stores such as Lowe's and Home Depot, but their staffers say tankless heaters should be put in by pros.

As a point of price reference, according to the Web site [www.noritz.com](http://www.noritz.com), its models have suggested retail prices starting at \$999 and going up to \$1,299 and \$2,399 and beyond.

"Absolutely, it's a bigger investment up front, but it's an investment," says Mr. Bright.

His pitch, which he's made to increasingly interested folks at the past several Pittsburgh Home & Garden Shows, is that a typical Pittsburgh household can save up to \$20 a month on natural gas. Also, he says, a tankless heater can last 20 years or longer (although warranties typically are 10), during which time you might have to replace a tank heater two or three times.

Now, he'll also tell you, "A tankless water heater is made to be maintained" because they have valves and other parts that should be checked (every year) and, in areas like this where the water is hard, they may need to be de-scaled (every year or two). But he still says a tankless heater can "pay for itself" -- in as little as "four to five years."

Of course, that depends on what you spend to put them in, and that varies by the house.

According to the New Buildings Institute study, a retrofit installation for a natural gas tankless heater averages \$1,000 to \$1,500, though that price could drop if they become more popular. For new construction, the cost averages \$800 now.

### **Region not going tankless**

Jon O'Brien, spokesman for the Master Builders' Association of Western Pennsylvania, says the region hasn't embraced tankless heaters because of the upfront costs. One local development with tankless heaters is Summerset at Frick Park in Squirrel Hill, which offers them as one of its "green" options.

Of the relatively few people who have gotten a tankless heater, some have hated them and some love them.

"It allowed us to have additional room," says Ronald Rockey, who three months ago had Energy Reduction's preferred tankless contractor, Benjamin Franklin Plumbing, replace his two old 40-gallon tanks with a new **Noritz** that's mounted on a wall in his garage. He spent a lot on venting and other piping, but he believes he'll save on his gas bills, not to mention \$300 on this year's tax bill. "I have absolutely no complaints at all."

O'Hara's Mark Schermer, who also had Benjamin Franklin put in a **Noritz** a few months ago, isn't so sure he's saving gas. "It's hard to know whether there's any change or not."

He points out quirks, such as how it takes longer to get hot water in winter when the water coming into the house is colder.

But, overall, "It works great."

It's important to note that even with tankless heaters, hot water isn't unlimited. Models are rated for BTUs (heat units) and gallons per minute (flow rate) and can only heat so much water so many degrees. One might not satisfactorily supply, say, two showers and a washer at once.

Much depends on each individual situation, as even one manufacturer of both types of heaters -- Bradford White -- concluded in a recent test pitting two of each published in PM Engineer.

### **Is it right for you?**

Some experts see some the benefits but deplore the hype.

"I feel like tankless water heaters have been oversold," says Larry Weingarten, whose credentials include co-authoring the Water Heater Workbook and the Web site [www.waterheaterrescue.com](http://www.waterheaterrescue.com).

He has a water heater museum in the basement of his new, super-energy-efficient home near Monterey, Calif. He grants that today's tankless heaters are much improved, and believes one might be just perfect for a small household, or a vacation home or a church that sits empty most of the time. But like Mr. Carter, he's biased toward simpler tank heaters.

He believes that if you're considering tankless, especially if it's to save energy, you need to weigh all the benefits and costs.

"People really do try to do the right thing, but they need to understand what questions to ask, and that information really isn't out there."

To figure out if a tankless water heater will work for you, you need to assess your situation and needs, crunch your numbers, get estimates and maybe discuss the pros and cons with a pro.

Harvey Sachs, director of building programs with the Washington, D.C.-based nonprofit American Council for an Energy-Efficient Economy, points out that many aspects of tankless heaters still haven't been properly studied, "Right now all the research is being done by early adopter customers," he says. "That's the way it happens with a lot of new technology."

---

*(Bob Batz, Jr. can be reached at [bbatz@post-gazette.com](mailto:bbatz@post-gazette.com) or 412-263-1930. )*