

## **Instant Hot Water? No Tanks!**

We've received many questions lately about tankless water heaters.

Every now and then a new home technology pops up on the market, and at first glance many of these innovations seem like great ideas. But when you take a closer look, you often discover that the technology really isn't practical.

Tankless water heaters are a great example. Homeowners in Europe and Japan have used them for decades, and the concept is appealing. Instead of constantly heating a large tank of water, as with traditional tank-type water heaters, tankless technology instantly heats water as it heads for the faucet. In theory, energy costs are lower, because you aren't heating water when you don't need it.

However, there is often a big difference between theory and reality, and tankless water heater technology is no exception. It's true that they only heat when you need water, but most residential tankless units are capable of heating just 2-3 three gallons a minute. That may be enough to wash your face and hands, or do the dishes, but it's not enough to do both at once. It's definitely not enough for a shower, bath, or dishwasher.

If you have an average-sized home, one tankless water heater – even models that claim to be “whole-house” – probably won't meet your needs. You may have to install two or more.

But that's not the biggest drawback to tankless water heaters. While they may not operate as long, they use a tremendous amount of power when heating water. Some need as much as 28,000 watts, compared to the 4,500 watts used by tank-type electric water heaters. Even though they draw that electricity for just as short time, it can cause such a great demand on the home's wiring and panel that a separate 60 to 150-amp circuit may need to be installed.

Running a tankless water heater on an existing line may be dangerous. While tankless water heaters may be good in some applications (such as heating water for a sink in an outbuilding bathroom), the disadvantages suggest that most homeowners should stick with a traditional tank-type heater.

Because tankless water heaters don't have standby losses, their energy factor is relatively high – around 0.98. But super-insulated water heaters, like the Marathon, approach that figure at 0.91. If you keep the temperature of the water at 120 degrees, the Marathon is even more competitive.

Standard water heaters with an insulating wrap can also approach these energy factors.

Weigh the pros and cons very carefully before deciding on a tankless water heater.