

HOT WATER

## Mike Holmes

### Making hot water only as you need it makes more sense than storing it and reheating time after time

MIKE HOLMES

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Environmentally responsible building is opening our eyes to some great, new technologies. But it's also getting us to take another look at really smart old ideas — such as tankless water heaters.

These have been used in Europe and Asia since the Second World War, but are only now coming into common use in North America. I'm a huge fan of these in-line hot water heaters. They are super efficient, space-saving products that — when installed properly — will last almost forever, cut your energy bill and supply unlimited hot water to your home. You can literally open up your tap, walk away, and still have hot water coming out a month later.

Yes, they cost more initially, and you have to have them installed and calibrated to your household's use by an expert, but there is no doubt in my mind that you will get your money's worth.

Tankless water heaters are small — usually not much bigger than an electrical panel. When you turn on a hot water tap, a burner in the unit lights up and instantly heats water in a maze of copper pipe. With the tap open, the water flows through the heated pipes, and within seconds, you have continuous hot water. When you turn off the tap, the burner goes off. The result is you don't have to heat and store 40 gallons of water in your basement any more. You only heat the water you use, and you have hot water for as long as you need it.

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Properly installing a tankless system requires three things: making sure your electrical supply can handle it, ensuring that the capacity of the unit you buy is enough for your hot water needs, and locating it properly and safely in your home.

The big difference between tank and tankless systems is that, while a tank system supplies a large amount of hot water for a limited time, a tankless one provides a smaller amount of hot water limitlessly. That means that with a tank, you can open all your taps and get all the hot water you want until the tank runs dry. The supply is limited. With a tankless system, you can open taps to the capacity of the heater and you'll get nice, hot water for as long as you want, but if the demand on the system is beyond its capacity, your water goes lukewarm.

In fact, that's about the only thing that can go wrong with a tankless system, and that's not the fault of the system. It happens to customers who do not take the time to understand how a tankless system works, and then try to nickel and dime the installer and reduce the size of the unit.

The capacity of a tankless water heater has to be carefully calibrated to ensure the system can handle the highest load you will put on it. The smaller tanks can only handle about one gallon a minute of hot water. That is the equivalent of one shower. If you have a family of five, and occasionally need to run two showers, a dishwasher and a washing machine at the same time, you'll have to buy a high-capacity tankless heater. If there are just two of you, a small tankless heater will probably serve your needs. Just don't turn on the dishwasher while someone else is in the shower!

There are a few other requirements — which a licensed installer will know about — that have to be met when putting in a tankless system. Placement is important — you need to install it as close to the taps as possible to reduce the time it takes for the hot water to get to them. They have to be on an outside wall to accommodate an exhaust, and the exhaust has to be a certain distance away from windows. It cannot be mounted on a combustible wall. In other words, this is not a do-it-yourself installation. Get an expert to design the system.

Beyond the initial cost of a tankless system, the operating savings are very real. You will get your money back many times over if you plan to live in your house for a while.

And the system can solve another problem. If you are putting on an addition that includes a bathroom, it may make sense to supply the hot water with a tankless unit located right in the bathroom. It saves having to run another hot water line from the existing tank, and possibly having to increase the capacity of that tank. And tankless systems take up practically no space at all.

These systems are getting the attention they deserve because they are the most efficient way to heat water in your home. For my money, they are the only way to go. The next time your tank springs a leak, be smart, do it right, and go tankless.

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