

## Tankless Water Heaters

Who wants to save energy and always have hot water? We all do, of course. As a licensed home inspector and former engineer I am always looking for new and better mousetraps. However, I have always wondered why I don't see more tankless water heaters on my inspections.

In recent educational offerings to home inspectors, neither our plumbing expert nor an energy expert recommended a tankless water heater although I was quite impressed by the presentation by the Rinnai (tankless water heater manufacturer) rep. A Consumer Reports article (October '08) reports that annual savings would be \$70-\$80 per year based on their studies, which used "heavy use" as defined by the Department of Energy. To offset the additional purchase and installation costs would take up to 22 years! (Note: Expected life of tankless water heaters is 20 years.) In industry we attempted to recover costs in one year although three to five would be more realistic.

Tankless water heaters have advantages and disadvantages beyond cost. Certainly the advantage of virtually endless hot water is huge, especially if you have ever taken a cold shower in January. The disadvantages beyond cost begin with the fact that the controller for tankless water heaters is electric, which means that no hot water is available during power outages and hot water ceases immediately during an outage. As a sideline, if you do have a tankless (or plan to) be sure the circuit supplying the controller is not likely to be tripped, especially one that is on a GFCI protected circuit. If the controller is in an unfinished basement, code requires that it be on a GFCI circuit but not if it is on a dedicated (not a duplex) outlet. Direct vent and conventional/draft hood water heaters provide hot water without electricity. Those with power vents (fans mounted on top of the water heater), of course, do not heat water during an outage but do have a reserve (tank) for a limited time.

Many experts recommend annual service of tankless water heaters to maintain proper operating conditions. Furthermore, installing a water softener may be necessary if your water hardness is above 11 grains per gallon (per Consumer Reports). This can affect your warranty.

Finally, a tankless water heater has special installation requirements that may make a retrofit difficult or more expensive as it must be installed on an exterior wall.

If you really want to save energy and help the environment, a better investment may be the Metlund D'mand System [www.gothotwater.com](http://www.gothotwater.com) and is essentially is a pump that when activated, forces water (that has cooled) from the hot water supply lines to the water heater and replaces it with hot water so you have hot water in seconds. This saves not only time and energy but also reduces sewer bills from wasting water down the fixture while waiting for the water to heat. The

system can be activated with a door switch, motion sensor or flow switch. The system is especially invaluable if a fixture (such as the master bath) is a long distance from the water heater. A wait of 2-3 minutes for hot water is not uncommon and at 2-3 gallons per minute this adds up over time.

The pump can be easily installed by a semi-skilled do-it-yourselfer but does require a 110v circuit for the pump.