



## TANKLESS WATER HEATERS

If you're seeking to reduce energy costs, a logical place to look is your water heater. Unfortunately, there's not much we can do with tank-type units; adding tank blankets and pipe insulation may help conserve heat, but doesn't seem to save much money. Since 2004, storage tank-type water heaters have been mandated (by the U.S. Department of Energy) to be more energy-efficient, and there is a new combustible vapor requirement. Despite that (according to the DOE), operating costs for gas storage tank water heaters account for 20% or more of an average household's annual energy costs.

A tank-type water heater maintains the water temperature to the setting on the tank. It must operate even if no hot water is drawn from the tank, to compensate for "standby loss" (heat radiating from the walls of the tank and escaping out the flue pipe). Standby losses represent up to 20% of annual water heating costs. One way to reduce this expenditure is to use a tankless (also called "demand" or "instantaneous") water heater.

Common in Europe and around the world, tankless units heat water as it is used, or "on demand." When you open the spigot, a sensing device is activated, the heater fires up, and you get a constant supply of hot water for as long as you need it. When one person finishes a shower, there's no wait for more hot water before another person can take theirs.

Depending on the amount of hot water required, you might choose one of the larger gas units, designed to supply all the hot water needs of a household, and have it installed centrally in the basement. Another alternative is to install small units at the point of use. For example, you can use a small electric unit as a "booster" for a far-off bathroom, dishwasher, or laundry. These units are usually installed underneath a sink or in a nearby closet.

Although they will reduce energy use, tankless water heaters are not yet the perfect answer to a constant supply of hot water. If you choose a centrally-located tankless heaters, you'll have the best result if you look for one with the highest flow rate you can get. Also, you may need to modify your water-use behavior a bit. Despite manufacturers' claims, tankless units simply don't produce the same rate of water flow as do tank-type heaters. If you are showering with a 3-gallon-per-minute showerhead when a large water-using appliance cycles on, one or both may not get much hot water.



*Rinnai tankless water heater*

The cost of these units is still considerably more than conventional tank-type heaters, so you'll need to evaluate your cost savings over the long term. Nevertheless, more and more people are finding that tankless units – whether used as the sole source of heated water or to boost an existing tank-type unit – can help them reduce energy usage and adopt a more sustainable life style.