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Going Tankless

By: Patrick Breen

As a home inspector there is rarely a structure I investigate that wouldn't benefit from some home health care maintenance. The two most common systems the homeowner often overlooks are potential water penetration and energy efficiency. Routine structural maintenance and monitoring of your drainage system will stem the effects of moisture; and a little keen observation can diagnose many areas of poor insulation. But, there is one area of energy consumption that represents as much as 24% of your energy costs and is often overlooked, your hot water heater.

People will try to offset high energy consumption by lowering their water temperature and wrapping the tank in a thermal blanket; good start but the primary loss isn't due to either of these factors. It's because your water heater continuously heats water when you don't need it. When you are away from home, or sleeping, your heater is always producing hot water.

Today though you have options. The tankless, on demand, hot water system. This system has been on the market for many years and is used widely in Europe and the Far East specifically because of low energy consumption, as well as space saving reasons.

The U.S. market had not embraced this technology because our homes are larger and often demand higher volumes of hot water than this system could provide. With advancements in capacity as well as increased efficiency, all this has changed.

The typical tank style hot water heater has a life expectancy of 6-12 years with an energy factor in the 60's and an average cost of $600 to $800. The typical tankless system has a life expectancy of 20-25 years with an energy factor as high as the mid 90's, with an average cost of $1500.

While the energy savings coupled with a much longer life can easily offset the increased upfront cost in a few short years, there are factors to consider when shopping for a tankless system.

Just as there are different sizes of water tanks, there are different flow rate capacities to the tankless. The flow rate of a sink is 1.2 to 1.6 gallons per minute (GPM). A shower will range from 1.6 to 2.2 GPM. Consider how many showers, the size of your tubs and how many sinks might be running at the same time; and then factor that into the systems flow rate. New ultra high efficiency systems can produce over 9 GPM.

Another consideration is venting. Because of the high BTU's (heat) most tankless systems require the installation of category 3 vent stacks. If you have a long vent run your piping can cost more than the unit itself. Luckily though there are options. You can purchase an exterior unit which requires no vent pipes, you can devise a shorter run out your side wall, or you can choose one of the newest models that allows venting with traditional PVC piping.

As with any home system it is important to find what works best for you, but when considering a new water heating system I encourage you to investigate Going Tankless!