

Tankless Water Heating Growing in Popularity

Hot Water Where You Need It – Continuously!

AT A GLANCE

- ▶ Tankless water heating becoming widely accepted
- ▶ Hot water delivered quickly
- ▶ Continuous supply assured
- ▶ Energy savings from reduction of standby losses

We install natural gas-fired tankless water heaters in all of our new construction because they perform well and are cost effective." This is Lee

Brantley, manager of a Sonic Drive-In in Thomson, Georgia. This restaurant is one of a group of Sonic restaurants in Georgia that have chosen to use Rinnai tankless water heaters as the sole source of hot water. They were attracted to this application because of its operating efficiency, and its ability to conserve floor space.

OWNERS DISCOVERING THE TANKLESS OPTION

In the past several years, building owners of all types are discovering the merits of tankless water heaters. Articles in newspaper columns and in engineering journals on energy saving strategies are proclaiming the merits of tankless water heating technology. Energy experts are impressed at the potential for convenience and efficiency.

Commercial building operators are also getting excited about tankless systems. They are increasingly choosing to install this type of water heater for a variety of

applications. What is this excitement all about?

STORAGE WATER HEATING BEING QUESTIONED

Previously the practice for commercial buildings had been almost automatic to put in central storage water heaters and run hot and cold lines to all locations. But because of rising energy costs and building user requests for faster hot water, operators have been looking for alternate solutions. With increasing knowledge of tankless systems, and a growing list of product options, often the decision now is to go tankless.

Perhaps the first benefit noticed with tankless systems is their ability to deliver hot water more quickly. The unit is near the point of use and begins heating water as soon as the faucet is opened. Typically in less than five seconds, the water coming out of the tap is hot. This is valuable in lavatories and in food preparation areas.

ENDLESS HOT WATER

From the user's perspective, another advantage is that there is no chance of running out of hot water. The gas-fired tankless heater supplies continuous hot water at the design temperature as long as it is needed, period. In commercial applications where large volumes of water are required, units can be manifolded together to meet any requirement.

With a central storage system, water that has been heated and has cooled in

the lines is normally wasted down the drain. This energy waste is avoided with an on-demand system. Tankless systems not only eliminate these line standby losses, but tank standby losses as well.

STANDBY LOSSES CAN BE SIGNIFICANT

With a tankless system, water is heated only when and where it is needed. Estimates of the amount of energy wasted in hot water storage tanks range from 10% to as high as 50%. A large commercial facility may use up to \$5,000 a month for water heating, so adoption of a



The Bradford White Everhot tankless water heater is available with outputs of 3.87 and 4.26 gpm and is designed to be manifolded with multiple units for larger water quantities.

HOW DOES A TANKLESS WATER HEATER WORK?

The Process:

1. A hot water tap is opened...
2. Water enters the heater.
3. The water flow sensor detects the water flow.
4. The computer automatically ignites the burner.
5. Water circulates through the heat exchanger (coil).
6. The heat exchanger heats the water to the designated temperature.
7. When the tap is turned off, the unit shuts down.

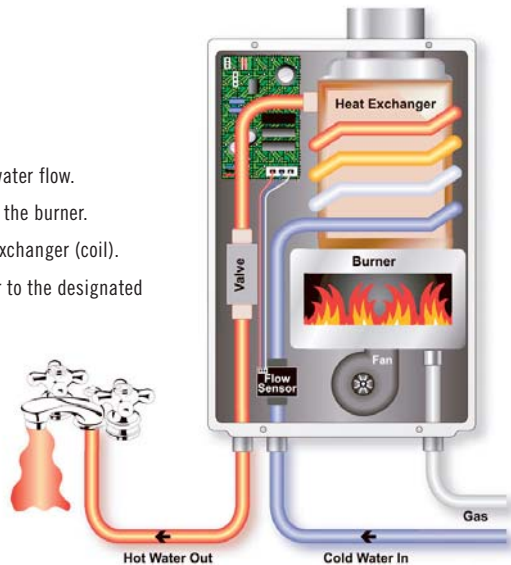


Illustration courtesy of Takagi, Inc.

tankless system in such a building could save from \$500 to \$2,500 a month in energy costs.

Designing a facility for tankless water heating allows the owner to free up floor space needed for storage water heating, and allows a major reduction in hot water piping runs. On-demand water heaters are compact — often less than the size of a suitcase — and hang on the wall near the point of use. Typically they weigh from 30 to 85 pounds. Often they are placed in a nearby utility closet, or are used with an enclosure for flush-wall installation. Often in hand-washing stations and some other applications, only a single line need be run all the way to the faucet.

IDEAL FOR MANY APPLICATIONS

According to Ted Sikorski of Bradford White, which manufactures both conventional storage water heaters and tankless units, there is growing interest in the tankless product. “They are particularly attractive when there would otherwise be long pipe runs, and it is not necessary to have a “flood” of hot water all at once.” He

notes that for applications like gymnasium shower rooms, multiple units are used in series to meet the large but intermittent need for hot water.

Another application that Sikorski indicates as ideal is in hotel and restaurant lavatories and food prep areas. He notes, “As long as you stay within the capabilities of the unit, it can be a perfect solution, and can definitely save energy dollars.”

DEMAND FOR TANKLESS IS GROWING

Noritz is another manufacturer of tankless units, and they note that the demand for the product is growing. They indicate that part of the reason for the growth is environmental consciousness. They feel that owners are attracted to the lower energy usage of an on-demand system, and are impressed by the low emissions of CO₂ and NO_x.

Takagi is another major manufacturer of the tankless systems. As with most manufacturers, their product is available for use with both natural gas and LP, and is designed in a wide range of styles. They

emphasize the efficiency of the water heaters, with rates greater than 80%, and their adaptability to a wide number of applications. They offer a remote control package for building engineers that can check water temperatures and verify correct operation of multiple units.

SENSE WHEN HOT WATER IS NEEDED

All of the gas-fired tankless units use a flow-sensing device to initiate heating of the water, and the equipment can be adjusted to the desired set temperature. Units are available in various flow rates, ranging from 3 to 12 gpm, and as mentioned earlier, units can be manifolded for larger requirements.

Because they are combustion devices, they require venting, which can be either a powered vent through a sidewall or a standard roof vent. A part of their efficiency comes from their having no standing pilot light, but rather using an electronic ignition module.

Lee Brantley at the Sonic Drive-In is typical of customers that are pleased with the performance of the units. He says, “They are trouble-free and perform very well.” Storage water heating is no longer the automatic choice for commercial building. For many other applications, tankless water heaters will supply hot water when it is needed and only when it is needed. And they will do so as long as needed.

MORE INFORMATION

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NORITZ	www.noritz.com
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