

Booster Water Heating

For Commercial Kitchens – Better Results, Lower Washing Costs

AT A GLANCE

- ▶ Hotter water makes a better wash
- ▶ Booster heaters reduce need for chemical cleaners
- ▶ Shorter wash cycle times
- ▶ Gas-fired boosters can be more economical than electric

The Pearl Street Grill and Brewery in Buffalo, New York recently installed a booster water heater, allowing high-temperature washing of dishes and glassware. “We are absolutely delighted with the results,” says manager Earl Ketry. “It allows us to pour a pint of beer in a crystal clear glass. That pleases the customer and so it pleases us.”

Whether it's in a school food service operation, a hospital, or the finest restaurant, the dishwashing goal is the same — very clean, sterile, and attractive dishes at the lowest possible cost. Let's face it, patrons don't like to find dirty or spotted dishes, silverware or glasses when they eat at an establishment. Increasing numbers of commercial kitchen operators are discovering the answer is a booster water heater.

These units can provide fast bursts or sustained flows of 180°F water for a final sanitizing rinse. This avoids the use of chemicals and yields a fast-drying spot-free result with all dishes, glassware and tableware.



Sparkling glassware and dishes along with lower operating costs are both benefits of booster water heaters.

SANITATION THE PRIORITY

Typically, commercial kitchens use either a door type or a conveyor type dishwasher. Requirements are for a complete wash, a short cycle time and an absolute assurance of sanitation. These facilities commonly have a tank water heater that provides ample water at around 140°F for general cleaning and to supply the wash stage of the dishwasher. However, good food service practice and most health codes require a final sanitizing rinse.

In the past this final rinse was often accomplished with a chemical spray, then a final water rinse. Many pounds of sanitizer could be used in a single meal service. Operators have learned that an alternative way to achieve the sanitizing goal is with a high temperature final water rinse, generally around 180°F. For this purpose, manufacturers offer booster water heaters. These accept pre-heated water from the tank water heater and raise it to the desired high temperature.

COMPACT BOOSTER UNITS

Booster heaters are compact and are designed to fit under a counter or to hang on a wall near the dishwasher. Close proximity to the dishwasher will assure a nearly-instant flow of very hot water. There are many advantages to a booster unit and a high-temperature sanitation cycle over using chemical sanitizers.

The two most widely seen names in booster water heaters for food service applications are PrecisionTemp and Hatco. Both offer a range of booster water heaters that will supply either a small restaurant or a large institutional food service operation. Booster units are available in both electric and gas-fired models.

REDUCED ENERGY COST VS. ELECTRIC

One attraction to the gas-fired unit compared to the electric unit is energy cost. One calculation indicates that a gas fired booster will save 48% to 72% over an electric booster of comparable capacity. The natural gas option is also

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attractive because it will not contribute to an increased demand charge from the electric utility. Further, it will not require an increased electric service to the kitchen area.

Some calculations indicate that the operating cost using a gas-fired booster is 73% less than using chemical sanitizers. This typically provides a simple payback of less than two years. Because of the higher temperature, dishes dry 25% faster than with a sanitizer and lower temperature water rinse. Because of the fast-drying characteristic, spotting is dramatically reduced. The high temperature final rinse also helps eliminate stubborn grease and lipstick residues on dishes and glassware.

SHORTER CYCLE TIMES

Cycle times in a door-type dishwasher with a high-temperature booster rinse average about 60 seconds, versus 90 seconds with a low-temperature chemical rinse, thus saving water and increasing throughput. Some estimates are that as

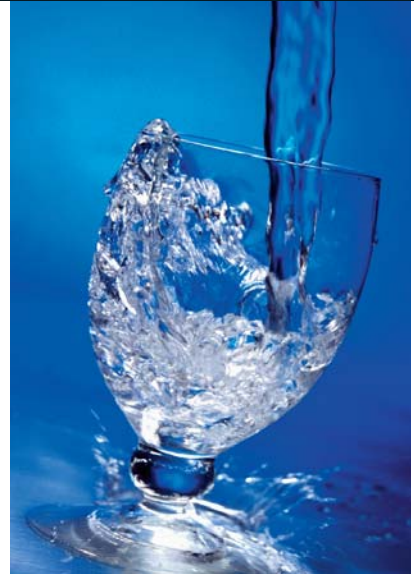
many as 12 additional racks can be handled in an hour. Many kitchens also discover that they need to use less wash detergent with a high-temperature rinse.

By avoiding the exposure to corrosive chemical sanitizers, tableware and dishes last longer and remain more attractive. It also avoids the corrosive effects of the sanitizers on the dishwashing equipment and the surrounding area. The faster drying cycle mean there are fewer puddles of water surrounding the dishwashing operation.

The earlier example of the Pearl Street Grill and Brewery in Buffalo is an example of the many benefits of gas-fired booster water heaters. This facility is the largest brewpub in Western New York, and places a high priority on the presentation of its meals and beers brewed on-site. In doing a kitchen upgrade last winter, they worked with John Gallinger, their representative from their local natural gas utility, National Fuel Gas Company. He recommended they consider a booster water

heater for their dishwashing operation. He explained that a booster water heater would pro-

Booster water heaters, such as the Precision-Temp Model PT-56 shown here, are compact in size and can provide a continuous supply of high temperature water for commercial dishwashers. This dramatically reduces the need for chemical cleaners and produces a superior wash for dishes and glassware.



vide much hotter water for their dishwasher without increasing the temperature of the general service water.

According to manager Earl Ketry, the results with their booster water heater have been outstanding. "There is a very detectable reduction in our energy costs, we are using far less chemical cleaner, and the dishes and glassware are cleaner." He notes that there are significantly fewer dishes to re-wash, and the glassware is brilliant. "You can tell the difference when you're pouring a beer. It makes a nice, high head in the glass. That's the sign of a good wash."

Manufacturers of gas-fired booster water heaters have equipment designed for both door-type and conveyor dishwashers. They use corrosion resistant materials, and some units are available with ventless burner designs. Some units use an on-board pump to send water to the spray cycle when needed, while others use a variable flame technology and system water pressure to deliver the right temperature of water when needed.

Clearly, there are advantages to the booster water heater from both the perspectives of quality dishwashing results, and operating economy. Although the gas-fired product has a somewhat higher first cost than an electric booster, the operating expense will pay the difference back quickly. It will produce results that both kitchen workers and diners will notice.

