

# PRODUCT APPLICATION

## WaiWela tankless units ideal fit for snack food plant

CITY OF INDUSTRY, CALIF. — The Snak King Corporation, located in City of Industry, has been remodeling, reorganizing and upgrading its 177,000-square-foot Kosher & Organic certified manufacturing plant since 2004. The Snak King Corp. is one of the largest snack food manufacturers on the West Coast.

In October 2004, after two weeks of torrential rains swept through Southern California, Snak King's manufacturing plant was crippled for three weeks after a 12,000-square-foot section of the rain-weakened roof collapsed directly over

the heart of the plant. Though the roof collapse struck at the heart of the plant and disrupted operation, it did not crush the spirit of this gritty, entrepreneurial company lead by chairman and CEO Barry Levin.

As soon as Levin and his team were sure they were going to survive the tragedy, they decided to take the opportunity to rebuild the plant for the better and invested in a new roof, a new floor and new equipment. Their main goal for the rebuild project was to enhance the efficiency, consistency and capacity of

the manufacturing plant with an eye on meeting the ever-increasing consumer demand for their products now and into the future.

During the progression of Snak King's rebuilding project, the capacity of its existing hot water system was evaluated by process engineers. They found that the existing hot water system would not be adequate to handle any capacity increases, so they decided to explore options for replacing the system.

They contacted Richard Ponce, a veteran in the tankless water heater industry who has been involved in many commercial and residential projects over the years. Richard Ponce is the owner of GPW Sales LLC, a manufacturers' representative agency, and a consultant who specializes in "Tankless Solutions." (Check out [www.tanklessolutions.com](http://www.tanklessolutions.com) to learn more.)

After many hours of compiling information relative to the application and evaluating Snak King's goals for their rebuilding project, as well as considering future capacity increase goals, Ponce proposed a new hot water system. He took into account the following criteria:

- Snak King's manufacturing plant's hot water demand load requirement is 120 gpm with long-term plant capacity increases to 165 gpm for up to 4-hour intervals; 7,200 to 9,900 gph
- Snak King Corp's hot water system design operating temperature is 120°F; temperature rise of 65°F.

- Endless hot water supply
- Limited available space
- Energy efficiency required
- Redundancy needed
- Serviceability without any down time

- Capacity expandability of the hot water system
- Cost-effective solution.

Based on the above criteria, Ponce proposed specifying for this application the WaiWela by Paloma Industries model PH28CO commercial outdoor tankless water heater (WaiWela is pronounced Vi Vela, which means hot water in Hawaiian). The PH28CO model is a 199,900 Btu/h rated system. One of these models is capable of producing 5.2 gpm at a 65°F rise. Twenty eight of them plumbed in parallel will produce 145.6 gpm or 8,736 gallons per hour endlessly.

Due to space limitations inside the Snak King manufacturing plant, Ponce proposed mounting 28 WaiWela tankless water heaters on two skids in different locations on the roof of the plant. For the Snak King application, two galvanized steel skids were fabricated at grade by Coast Aerospace in Huntington Beach, Calif. One skid has 16 PH28CO units plumbed in parallel with a 1/8-hp circulator



lator pump to deliver immediate hot water to one area. The second skid has 12 of the units plumbed in parallel with a 1/8-hp circulator pump to deliver immediate hot water to another area at the plant. Both skids are mounted on the roof of the Snak King manufacturing facility. The lightweight size of this system allowed for installation without increasing the load bearing of the roof.

The WaiWela by Paloma tankless water heater has an energy factor of 0.82. It is an energy-efficient tankless concept that uses only the amount of gas necessary to fill that demand. These high-efficiency units also qualified for rebates from the local gas company and federal tax property credits.

Each WaiWela tankless water heater bank is controlled by a MC-180 multi-unit system controller. The controller will modulate the bank of WaiWela tankless water heaters per the demand and will sequence the water heaters to allow for equal shared usage. Multiple WaiWela water heaters were plumbed in parallel to provide redundancy and each was installed with an isolation valve kit to allow for individual servicing. The isolation valve kit by Webstone will allow for servicing each unit while not disrupting hot water service to Snak King's manufacturing plant below. Tru-Flex Metal Hose Corporation's Home-Flex high-volume gas connectors were installed to allow for the high Btu/h volume required for a tankless water heater. This allowed the installing mechanical engineer to eliminate having to use rigid gas pipe to each tankless unit. Falcon Stainless Steel water connectors were also installed to eliminate plumbing rigid copper pipe from the 4-inch manifolds to each WaiWela unit.

Another advantage of this system was to allow for future expandability. The skid with 12 WaiWela tankless water heaters is set-up to be expanded to 16 units for increased future manufacturing capacity at the Snak King.

Finally, the cost of each commercial WaiWela tankless system was significantly less than a comparable boiler system. Each unit is less than 200,000 Btu/h, eliminating the need for ASME approval allowing for more affordable pricing.

The Snak King Corporation has an industry reputation for being an innovative manufacturer and marketer of unique and creative snack food products. Over the years, Snak King has received many industry awards, including the 2006 Snack Manufacturer of the Year. Their line of products includes tortilla chips, extruded snacks, corn snacks, popcorn, caramel corn, nuts and pork rinds. Brands include El Sabroso, Granny Goose, Jensen's Orchard and private label.

For more information, call 800/605-6542 or visit [www.waiwela.com](http://www.waiwela.com). ■



The installation consists of 28 WaiWela tankless water heaters plumbed in parallel on two fabricated, galvanized steel skids on the roof of the plant.

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