



Stratosphere Casino Hotel & Tower
The Strip
Las Vegas, Nevada

Energy Efficiency and Code Standards Key in Stratosphere Casino Hotel & Tower Installation and Expansion

Compact Design of Lochinvar Products Instrumental in Selection

It takes something extraordinary to get noticed on the strip in Las Vegas, Nev. The Stratosphere Casino Hotel & Tower has a 12-story “pod” atop a 1,149-foot needle-like structure. A revolving restaurant and the world’s highest roller coaster are two of the main attractions at the top of the tower.

The Stratosphere Tower, which opened in April 1996, is the tallest freestanding tower in the United States. Thrill seekers can take a wild ride on the High Roller, with its 865-foot track wrapping around the top of the pod, or the more adventuresome can experience the feeling of zero gravity on The Big Shot, which shoots 160 feet vertically above the pod.

In addition to the main tower, the original plans for the property included a 24-story hotel tower expansion. The expansion project was put on hold in late 1996 but business has continued to be brisk; the hotel has hosted more than 12.5 million visitors in the last five years.

In April 2000, construction resumed on the tower expansion project and will be completed in late 2001. Estimated at \$75 million, the plans include the 24-story hotel tower with 1,000 new guest rooms, 100 suites, a 67,000 square-foot pool and a 300-seat coffee shop.

Installation in the Main Tower

With the Stratosphere Tower’s unique shape, space is scarce, especially in the 12-story pod, which houses a revolving restaurant, indoor and outdoor observation decks, a 220-seat lounge, retail space, three wedding chapels, meeting rooms and two “safe area” floors for use in an emergency.

Supplying hot water and hydronic heat for the hundreds of people who would be dining and sightseeing was going to be a challenge. The engineering and mechanical teams responsible for the Stratosphere Tower’s HVAC system faced working within a hollow core that is 3-feet deep by 15-feet wide.

“The decision to install the water heating at the top of the tower was based on cost and space limitations,” said Kris Kalkowski, a design engineer with Dunham Associates. “There was simply not enough space in the inner sphere for the required supply and return piping.”

In Brief:

Project:

The Stratosphere Casino Hotel & Tower

Location:

Las Vegas, Nev.

Products Used and Number of Units Installed:

3-Lochinvar Power-Fin® Boilers (PBN1000)
1-Lochinvar Power-Fin® Water Heater (PFN1000)

For More Information About:

The Stratosphere Casino Hotel & Tower
2000 Las Vegas Boulevard South
Las Vegas, Nev. 89104
Dunham Associates
3024 Rigel Avenue
Las Vegas, Nev. 89102



About Lochinvar

Lochinvar® Corporation is a leading manufacturer of high-efficiency water heaters and boilers, ranging in capacity from small residential units

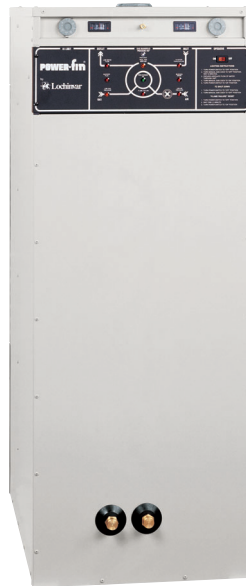
to three million Btu/hr models.

Lochinvar's new headquarters is

located

in Lebanon, Tenn. Other facilities include Detroit, Mich., Tampa, Fla., Philadelphia, Pa., and Dallas, Texas. Lochinvar stocks equipment at all locations.

For more information regarding Lochinvar's line of high-efficiency water heaters, boilers and pool heaters, contact: Lochinvar Corporation, 300 Maddox Simpson Parkway, Lebanon, Tenn. 37090; Phone: (615) 889-8900; Fax: (615) 547-1000; www.Lochinvar.com.



Lochinvar's Power-Fin® boilers supply needed hot water to the pod in the Stratosphere.

The drainage, chilled water and domestic water systems were also installed in the sphere.

The next question was how to fit the necessary water heater and boilers into the limited space of the pod. Kalkowski investigated a number of possible products, but had to work within the Nevada State Boiler Code, which requires that boilers have a minimum 3-foot clearance for maintenance. The mechanical room's sloping walls made this a tough specification. Kalkowski met the design criteria for size, output, and venting by specifying three Lochinvar® Power-Fin® boilers and a Power-Fin® water heater.

"The size of the boilers made Lochinvar the logical choice for our limited space," commented Kalkowski. "The small footprint of the Power-Fin® allowed us to fit four units in an extremely cramped space and still meet code."

The boilers supply the three million BTU/hr of heat necessary for the restaurant and lounge. And the water heater, with the capacity to supply in excess of 1,000 gallons of hot water per hour, easily meets the system's hot water demands.

With the overall complex design of the HVAC system, the venting capabilities of the boilers also had to be considered. "The combination of Lochinvar's direct vent and intake worked well with the sloping exterior metal panels and provided minimal penetration," explained Kalkowski. "Conventional combustion air vent openings were not a workable option."

"The Lochinvar equipment has proven to be efficient and economical," said Rudy Orozco, who manages the maintenance of the HVAC components in the Central Plant at the Stratosphere. "The boilers and water heaters are trouble-free and reliable, which has reduced our overall maintenance costs. The boilers and water heater have more than met our expectations and they continue to make my job easier in maintaining the HVAC components of the hotel."

The \$75 Million Expansion

With the \$75 million expansion to the hotel, one would think additional water heating products would be needed to meet the demand, especially with 1,000 new guest rooms.

"The four Lochinvar products will easily meet the additional demand," explained Orozco.

"If we were adding more water heating equipment, the only acceptable products would be from Lochinvar."

