



Lochinvar Water Heating Solutions

# CaseInPoint



## Arizona's Largest Casino Installs Lochinvar Copper-Fin II Boilers

As more Native American Indian tribes operate gaming facilities, their casinos are becoming increasingly elaborate in architectural and mechanical design. In order for tribes in the southwest United States to compete with nearby Las Vegas, the new casinos have become larger in square footage, contain high-end dining facilities, and often incorporate hotels and concert venues.

One factor critical to a casino's success is maximizing available gaming space. The more square footage allotted to gaming and entertainment, the more revenue that can be generated. Unfortunately for the design engineer, that leaves minimal square footage available for mechanical rooms.

A second factor for success is the environmental quality of the gaming facility. Casinos are among the few buildings that still allow smoking in common areas, and similar to restaurants, they require a larger percentage of outside air than typical commercial spaces. This directly leads to higher energy demand and increased costs.

The Pascua Yaqui tribe faced these two problems when designing the 225,000-square-foot Casino Del Sol in Tucson. As the largest casino in Arizona, the Casino Del Sol features a 4,400-seat open-air concert amphitheater, a nightclub, a 36-lane bowling alley, a 900-seat bingo hall, an arcade and five restaurants.

The casino was designed and constructed in two phases. Phase I, completed in October of 2001, features more than 100,000 square feet of space. Phase II, completed in the fall of 2002, more than doubled that amount.

### In Brief:

**Project:**

Casino Del Sol

**Location:**

Tucson, Arizona

**Products Used and Number of Units Installed:**

2 – Lochinvar Copper-Fin II Water Heaters (CFN990PM)

1 – Lochinvar Lock-Temp Storage Tank (RGC940)

12 – Lochinvar Copper-Fin II® Boilers (CHN2070)

**For More Information:**

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## About Lochinvar

Lochinvar® Corporation is a leading manufacturer of high-efficiency water heaters, boilers and pool heaters, ranging in capacity from small residential units to two million Btu/hr models. Lochinvar's world headquarters is located in Lebanon, Tenn.

Other facilities include Detroit, Mich.; Tampa, Fla.; Orlando, 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:

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The ventilation systems were designed to operate with 100 percent outside air to ensure proper air quality. With an outdoor design temperature of 29°F in the winter, this application required a fairly large boiler plant.

During Phase I, two Lochinvar® Copper-Fin II® one-million Btu/Hr water heaters (CFN990PM), one Lochinvar Lock-Temp® 940-gallon storage tank (RGC940) and four Lochinvar Copper-Fin II® two-million Btu/hr boilers (CHN2070) with supply/return temperatures of 180°F/140°F were installed. The Copper-Fin II boilers serve the heating coils for seven 15,000-cfm air-handling units, plus the terminal reheat coils in VAV boxes. An additional eight Copper-Fin II two-million Btu/hr boilers (CHN2070) were installed in Phase II, serving 20 air-handling units and numerous terminal heating coils throughout the casino. Space was allotted in the mechanical room for four future boilers of the same size.

A number of factors led the engineering team to design this system around the Lochinvar Copper-Fin II model. "Because of the Copper-Fin II's space-saving design and Lochinvar's Multi-Stack® frame, I was able to maximize the number of boilers in the small mechanical room," said Tom Andrews, mechanical engineer at Leo A. Daly Co. in Phoenix, Ariz.

"The Copper-Fin II also features numerous venting and combustion air intake options, and that helped keep the number of penetrations in exterior walls at a minimum," continued Andrews. "Due to these factors, engineers at Leo A. Daly have consistently designed heating systems for many casinos around Lochinvar products."

The Copper-Fin II operates at a remarkable 85 percent thermal efficiency, which is critical in keeping operational costs at a minimum. The proportional firing operation of the boilers ensures maximum efficiency at part load operations, while maintaining constant hot water supply temperatures. The Copper-Fin II boilers also integrate well into building management systems.

Lochinvar water heaters and boilers have been installed in other casinos designed by Leo A. Daly, such as Sandia Casino in Albuquerque, N.M., and Casino Arizona at Salt River in Scottsdale, Ariz.

