



## Case Study – Cashman Center

EDUCATION / HEALTH CARE / LODGING / MANUFACTURING / OFFICE BUILDING / RETAIL / SPECIAL



### Cashman Center Finds Comfort and Savings with Evergreen® 23XRV Chillers

#### Project Objectives

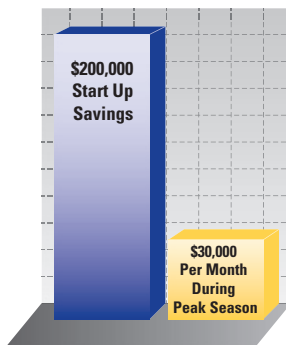
A multi-use facility near downtown Las Vegas, Cashman Center boasts exhibit space, meeting rooms, a theatre, parking, and a baseball stadium. Built in 1983, the facility's original chillers were over 25 years old and had become inefficient and costly. Instead of building new, the owners chose to maintain the facility and focus on how to improve facility energy savings.

#### Solution

To satisfy increased demand during the key summer season and improve energy efficiency, Cashman Center turned to Carrier to replace the existing system with two Evergreen® 23XRV variable-speed water-cooled screw chillers. The 23XRV was chosen for its variable frequency drive, which increases comfort and efficiency during extreme load conditions. In addition, the 23XRV allowed Cashman Center to be eligible for a Nevada rebate designed to reduce electricity demand during the peak summer season.

*Over the first 12 months since they installed Carrier® Evergreen® 23XRV chillers, Cashman Center's energy costs were reduced by \$115,000 and consumption lowered by 1,300,000 kilowatt hours (kWh).*

#### Cost Savings With Carrier

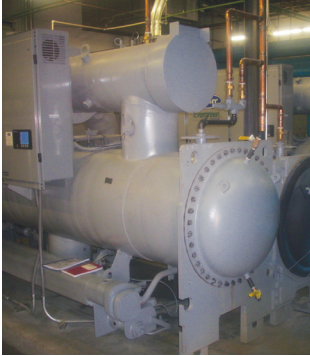




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### Project Synopsis



*"The preliminary annual cost savings of approximately \$75-\$100K were conservative, needless to say we are extremely pleased.*

*Nevada Energy has been out several times and even had an independent energy audit conducted; they are still blown away."*

*David Cooper, CFM  
Director of Facility Operations  
Cashman Center, Las Vegas*

Cashman Center is a multi-use facility encompassing 483,000 square feet on a 55-acre site near downtown Las Vegas. The facility includes 98,100 square feet of exhibit space, 12 meeting rooms, a 1,922 seat state-of-the-art theatre, over 2,500 spaces for parking, and a 10,000 seat baseball stadium which is the home of the Las Vegas 51s, AAA affiliate of the Toronto Blue Jays.

The three existing chillers in the facility's central plant were 25 years old, leaking and inefficient. The Cashman Center commission evaluated building a new facility against upgrading the current site. Once approval was given to maintain the existing facility, the operations team requested assistance from their heating, ventilation and air-conditioning service partner, Carrier Corporation. "We were able to work with the team to demonstrate to the commission that by replacing the existing chillers and installing only two new chillers, Cashman Center would see a return on their investment in just three years," stated Van Hoppler, territory service manager, Carrier Corporation.

Evergreen 23XRV chillers were chosen because they utilize variable speed screw compressor technology. This technology allows the chillers to run more efficiently under the load conditions at Cashman Center, particularly during peak summer months.

While two Evergreen 23XRV chillers were installed, one handles 90 percent of the load while the second is for redundancy. At the time of the installation, Cashman Center saw a \$200,000 savings and qualified for a rebate from the state of Nevada. The rebate program is designed to provide incentives for purchasing equipment that delivers long-term energy savings. The initial savings were so significant that Nevada Energy conducted an independent energy audit to confirm them.

"From start to finish, including the continuing monthly service, Carrier has exceeded all expectations," stated David Cooper, CFM, director of facility operations, Cashman Center. "The new chillers are everything advertised and then some: easy to operate and maintain, and extremely reliable. Over the first 12 months our energy costs were reduced by \$115,000 and our consumption lowered by 1,300,000 kilowatt hours (kWh)."

The Evergreen 23XRV chillers also utilize HFC-134a environmentally sound refrigerant that is unaffected by refrigerant phase-out. "These are superior chillers installed by true professionals," added Cooper.

### Project Summary

**Location:** Las Vegas, NV

**Building Age:** 28 years

**Project Type:** Replacement

**Building Size:** 483,000 square feet

**Building Usage:** Multi-use facility with meeting rooms, exhibit space, theater and baseball stadium

**Project Cost:** \$400,000

**Major Decision:** New chillers were required to provide efficient year-round cooling to a diverse facility and to demonstrate energy efficiency standards that qualified them for a state incentive program.

**HVAC Equipment:** Two Evergreen 23XRV 450-ton water-cooled chillers

**Objectives:** Replace aging equipment with environmentally-sound and energy-efficient chillers

**Installation Date:** December 2009

For more information, contact your nearest Carrier Representative, call 1.800.CARRIER or visit our web site at [www.carrier.com](http://www.carrier.com)