



*Four Queens Hotel and Casino, Las Vegas, NV*

Downtown Las Vegas hasn't been the same since the completion of the Fremont Street Experience revived this popular gambling and tourist destination. This four-block project has successfully turned a city street into a large canopy-covered walkway that has substantially increased the tourist and gambling business in the downtown area.

The Fremont Street Experience which includes a mist evaporation system to protect the tourists from the sun and heat, and a laser light show presented several times nightly, created problems for the Four Queens Hotel and Casino.

Business at the Four Queens Hotel and Casino, located on Fremont Street, was suffering because the two existing air curtains on each end of the casino were limiting access into the hotel and casino from the sidewalk where the crowds stroll and gather to watch the light shows.

In order to share in the success of The Fremont Street Experience, the Four Queens Hotel and Casino contracted with Harris Consulting Engineers in Las Vegas to design an additional access opening. This new, 48 foot opening would be located between the existing entrances.

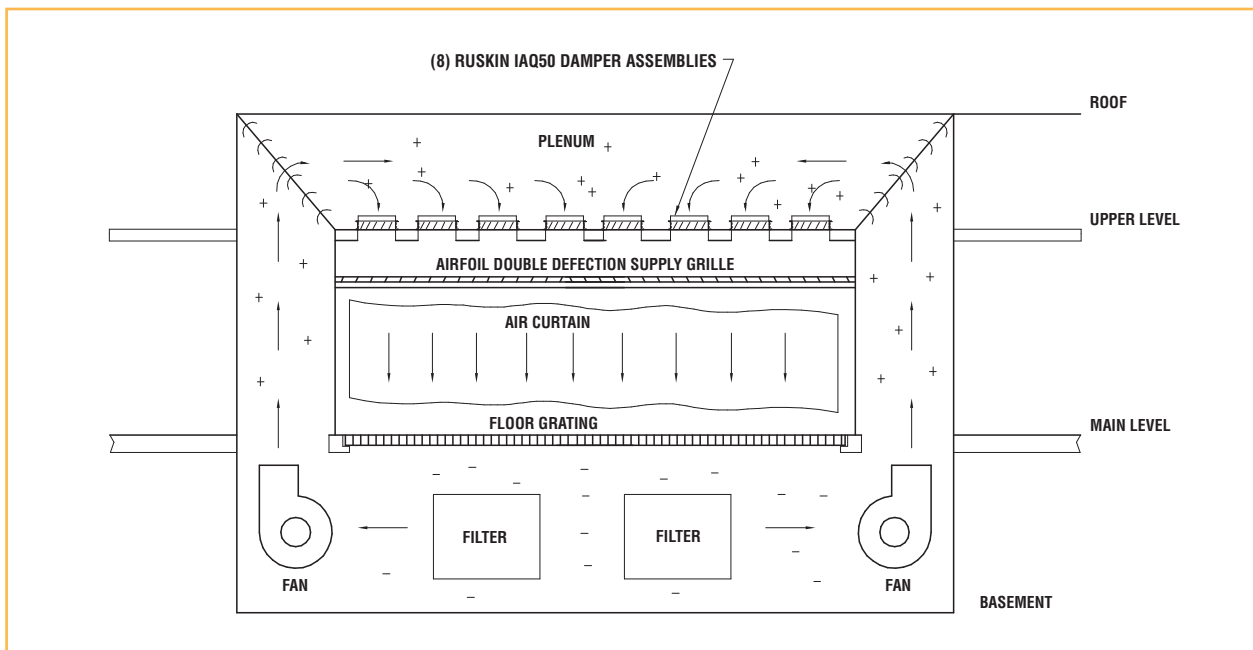
The hotel wanted the new entrance to open without doors. This required the design and building of an air curtain to separate the casino from the outside elements. Here's where the hotel encountered a problem. Because of the hotel's design, the air curtain would be obstructed by existing structural supports. And, in order to maintain proper building pressure, the air curtain had to provide precise control of the airflow around the obstructions

## Ruskin's IAQ50 Air Flow Measuring Control Damper Solves Las Vegas Air Curtain Challenge

To improve access into the Four Queens Hotel and Casino in Las Vegas, Four Queens recently added a 48 foot air curtain. Built using Ruskin's IAQ50 air flow measuring and control dampers, the new air curtain efficiently and economically maintains the pressure in the building.

Designed to satisfy the needs of a variety of applications, the IAQ50 air flow measuring and control damper provides the perfect solution to difficult challenges.





and down to the return air grate which is also the walkway into the casino.

In addition to maintaining the pressure in the building to prevent the loss of conditioned air from the casino, energy consumption and comfort were significant design criteria.

With the assistance of Long & Associates, Inc., Ruskin's Las Vegas representative, the Harris team responded to the challenge by designing a custom air curtain that provides precision air flow around the existing structural supports.

Built using Ruskin's IAQ50 air flow measuring and control dampers, the new air curtain successfully provides consistent airflow. The system includes two 65,000 cfm centrifugal fans installed in the space below the return air walkway grate. The air returns through the grate into the basement plenum and passes through two 144 square foot filter and coil banks. It is then ducted up from the fans into the plenum space above the air curtain supply opening. The air then passes through the IAQ50 air flow measuring/control dampers and is directed through an adjustable deflection type grille.

The individual IAQ50 dampers measure and control the airflow between the existing structural supports. This helps guarantee the air curtain maintains the required velocity and prevents conditioned air from escaping through the opening.

"Opening up the Four Queens to the Fremont Street Experience has been a tremendous success" says Max Proctor, Four Queens Building manager. "We are exceeding our revenue projections with this improved access to our casino."

"Ruskin's IAQ50 air flow measuring and control dampers are the key to the design of this

custom air curtain," says Floyd Harris, principal of Harris Consulting Engineers. "Without the precision control of the air velocity around the structural obstructions, it would result in uneven flow through the supply grille and loss of the air barrier. That means conditioned air would have escaped into Fremont Street. The support given by Ruskin and Long & Associates throughout the design, installation and commissioning of this system was outstanding."

The IAQ50 air flow measuring control damper is designed to fit the needs of a variety of applications. It is this type of versatility that helped the project succeed.

Harris Consulting Engineers once again demonstrated their commitment to providing engineered solutions for their customers by incorporating this unique product into their custom air curtain design.

The Ruskin IAQ50 air flow measuring and control damper is one of many products available through Ruskin's network of representatives. To learn more about Ruskin's complete line of dampers and louvers, or to find the nearest Ruskin representative, visit our website at [www.ruskin.com](http://www.ruskin.com) or call us at **(816) 761-7476**.

**RUSKIN**<sup>®</sup>  
**DAMPERS AND LOUVERS**  
*Specified by Many – Equaled by None*

[www.ruskin.com](http://www.ruskin.com)

3900 Dr. Greaves Rd., Kansas City, MO 64030  
 (816) 761-7476 Fax (816) 765-8955