

## **Air Curtains: An Invisible Advantage in the Energy Battle**

When we think of Las Vegas casinos, we often think of glitz and glamor, high rollers, and high expenses, but it may surprise you to know that Casinos, tasked with cooling enormous volumes of space, actually lead the way in energy efficiency in many regards. Just as their doors opening to the Las Vegas strip invite patrons in off the street, they would also allow for much of the conditioned air inside the building to escape into the hot desert air were it not for an industry secret: air curtains. An air curtain produces a vertical shield of air that separates climate-controlled indoor air from non-conditioned outdoor air, and also keeps out flying insects and other windborne pollutants, such as gas fumes from the cars right there on the Las Vegas Strip. The use of Air Curtains is what allows casinos to keep their doors wide open to the public in the hot summer months, while maintaining a cool and comfortable indoor temperature for guests and staff. It saves the money, and much needed electricity for the whole city, in peak summer months.

Casinos are not the only industries looking to save on the energy costs of heating and cooling buildings, big-box retailers and drive-thru restaurants also take advantage of energy-efficient air curtains, as do many hotel chains, catering to a high volume of guests around the world.

One hotel is the Mena House Oberoi Resort & Hotel in Cairo, Egypt, which utilizes air curtains not only over the main customer entrances, but also their food preparation and “back of the house” storage areas. The resort has eight 20 x 20 foot freezers that need to hold their temperature during the loading and unloading of their restaurant provisions. The required operating temperature for food safety is minus 21 degrees Celsius (-21°C) (or minus 5.8 degrees Fahrenheit (-5.8°F)) in the freezers. When the freezers were opened for stocking, the freezer temperatures would warm up to negative two degrees Celsius (-2°C)/ 28.4 degrees Fahrenheit (28.4°F), a 19 degree warming differential. After loading, it would take two hours for the temperature to cool back down to the required negative 21 degrees Celsius/ (-5.8°F).

The hotel needed a viable solution to conserve and improve their energy usage during their stocking process, as well as maintaining its commitment to the highest food safety standards. Plastic strip curtains are a solution often put forward by cooler manufacturers and food service design consultants. Unfortunately, plastic strips are rendered completely ineffective when they are moved aside to pass through, or positioned over or behind the door while employees go back and forth with delivery equipment. They are also breeding grounds for bacteria and food pathogens, making them unsanitary as well as ineffective. Air curtains offer full protection every time the cooler or freezer door is open, allowing employees to move freely, have no pesky plastic for bacteria risk, and since they are invisible, offer an aesthetic and safety appeal that plastic strips cannot.

After evaluating a number of options, the Mena House Oberoi Resort & Hotel selected a Mars 42” model air curtain from Mars Air Systems, an international leader in air curtains. The air curtains were placed over each of the freezer doors providing an invisible air barrier every time the doors opened, keeping the cool internal air from escaping and the warm air from entering, as well as keeping out any windborne pollutants. With the new air curtains, the freezer temperatures only rose by 3 degrees to

negative 18 degrees Celsius (-18°C)/ (-0.4°F) when stocking occurred. This resulted in an 85 percent improvement over past practices, in terms of the temperature rise, and the cool down time was minimized significantly. This allowed for a significant savings in their energy usage, increased life-cycle of the cooling equipment due to a reduced load, all while protecting valuable food inventory, and ultimately, guest safety.

Whether you are a small retail space looking to lower energy bills during the icy winter season, a restaurant needing to maintain sanitary conditions in the kitchen, or a casino seeking solutions to lower your impact on the energy grid, air curtains are a viable, cost-effective, energy-conserving solution. Learn how much energy your business could be saving by visiting the energy-savings calculator at [www.marsair.com/ROI](http://www.marsair.com/ROI).

*By: James Gill, vice president of sales of Mars Air Systems, the international leader in high quality air curtains that help make buildings comfortable, sanitary and energy efficient. With more than 50 years in the business, and utilizing the industry-leading tools and services, Mars provides architects, engineers, food service consultants and other specifiers with the most comprehensive air curtain solutions, while giving building owners the peace of mind of a reliable product and dedicated support. For more information, visit [www.marsair.com](http://www.marsair.com).*