

Restaurant / Bar

on Site

IAQ SOLUTIONS THAT WORK™

**Wizard's Sports Cafe
Richardson, TX**

**SEMCO SYSTEM CREATES THE
RIGHT ATMOSPHERE**



In 1987, Cooper Stewart opened the first Wizard's Sports Café, an entertainment and dining venue that has proved to be a successful concept in the Dallas/Fort Worth area, where five are now in operation. The flagship and largest facility, in Richardson, is 12,300 square feet; an average evening capacity is 150 patrons and peak occupancy is 300.

The Challenge

Wizard's Sports Café provides a wide range of entertainment, including big-screen televisions for sports viewing, billiard tables, shuffle-boards, darts, and "cigar nights." Dining and sports-viewing areas comprise half the Richardson facility, and two banquet rooms make up an area referred to as "the skybox." Wizard's is open for lunch, dinner, and late-night, seven days a week.

Because many of Wizard's customers choose to smoke, Stewart believes accommodating both non-smokers and smokers is important to the success of his business. As the amount of smoking in Wizard's increased, especially in the skybox, the noticeable amount of smoke in the air also increased. Lastly, on a daily basis, he wanted to be sure not to send the business-lunch crowd back to work smelling of smoke.

Wizard's existing HVAC system was comprised of seven units totaling 80 tons, each varying in size from 7.5 to 12.5 tons. A separate 10-ton Trane® unit serviced the skybox. Stewart wanted to know what else he could do to see a dramatic improvement in Wizard's IAQ. Engineers informed Stewart of the three principles to improve IAQ in any facility: bring in the right amount of outdoor air; filter the majority of impurities out of the outdoor and recirculated air; and manage the airflow direction in an ideal manner.

The Solution

Engineers recommended that Stewart consider an energy recovery ventilator (ERV) to help increase the outdoor air intake in the area. ERVs are designed to recover the cooling and heating energy that would be typically lost in the exhaust air stream. They achieve all this while significantly reducing the energy bills associated with treating large amounts of outside air.

From the options presented, Stewart selected the SEMCO Fresh Air Ventilator FV-2000T. The FV-2000T unit serves as a supplement to the initial HVAC system and enables 2,000 cfm of additional outdoor air without requiring an upgrade of the air handlers. Other than the FV-2000T unit, all equipment, such as exhaust and supply ducts, was part of the existing system.

SEMCO
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Benefits

- The SEMCO Energy Recovery System exceeds the ASHRAE Standard 62-1999 ventilation rates with high efficiency and low operating costs all at a competitive first cost.
- Because of its ability to dehumidify the air, incorporating the SEMCO System into the total HVAC design reduced the required refrigeration capacity by one-half.
- The SEMCO unit significantly reduced the capacity and peak energy demand requirements for fresh air ventilation.
- The SEMCO unit dehumidifies the incoming fresh air, which reduces the latent load on the refrigeration system and allows the system to run drier.
- Similarly, during the heating season, the energy recovery unit pre-humidifies the incoming air, thus reducing or even eliminating the need for humidification.

Area	Ventilation Rate	Occupancy Level
Dining Rooms	20 cfm/person	70 persons/1000 sq.ft.
Cafeteria, Fast Food	20 cfm/person	100 persons/1000 sq.ft.
Bars, Cocktail Lounges	30 cfm/person	100 persons/1000 sq.ft.
Public Restrooms	50 cfm/water closet or unriinal	
Kitchens (cooking)	15 cfm/person	20 persons/1000 sq.ft.
From ANSI/ASHRAE Standard 62-1999		

Results

Stewart is pleased with the results. “I knew it was not impossible to accommodate both non-smokers and smokers to each group’s satisfaction, I just had to find out how. Customers notice, too —they seem pleasantly surprised.” His effort was well worth it, and that he has learned valuable lessons. “If there is one thing I have found through this process, it’s that indoor air quality is something that you must take upon yourself to achieve. There was a lot of groundwork involved in this process, but I would do it all again in an instant — as a matter of fact, I am doing it again, at our newest facility. This time, however, I am looking at indoor air quality from the start, not just as a response to a problem.”

Stewart readily admits that improving IAQ is an investment, but it’s one that he believes is well worth it. “Investing in improved indoor air quality is something that customers and employees notice and appreciate. I’m pleased to see the result of our improvements, and I’m especially pleased to see that customer satisfaction is up.”

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