MARCH
2012

KELLEY®

Kelley® HVLS Large Fan
Makes Sure the Pool is Green

Company:
The YMCA of Greater Nashua
Nashua, NH

Challenge:
Creating an energy efficient and comfortable pool area year round.

Solution:
Kelley® FUSION™ HVLS Large Fan

Industry:
Athletics Center

Geography:
Nashua, NH

"the savings in duct work partially paid for the fan, enabling us to save even more money thanks to the fan's operating characteristics."

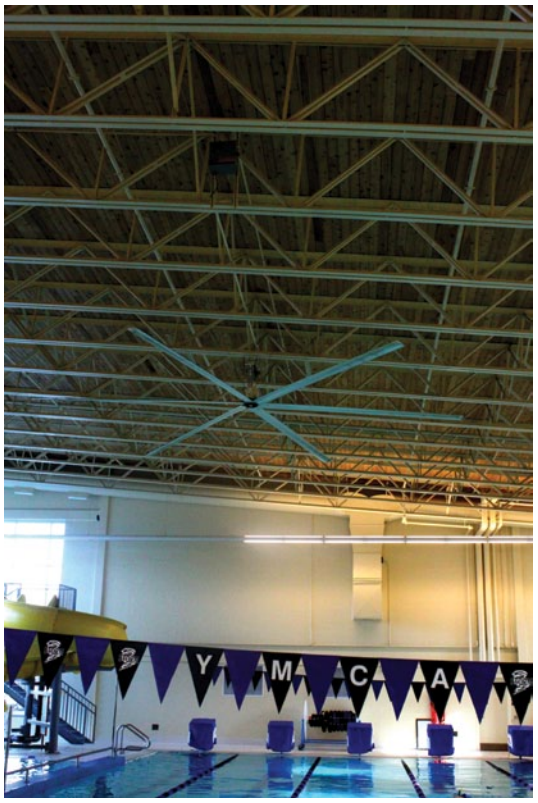
- Mike Powers, Properties Director for the YMCA

In May 2011, a new YMCA building for the greater Nashua, New Hampshire area opened its doors to accommodate their growing number of members. This two-story, 47,000 square foot, environmentally green facility hosts an array of physical activities and offers more than 300 programs and classes to a diverse population of all ages in hopes of enriching the surrounding community.

This new building has come a long way from the original built in 1887 and features the latest technology with an environmentally friendly building design. The addition of a Kelley® FUSION™ High Volume Low Speed (HVLS) large fan to the Y's pool area makes this portion of the facility even more attractive, more comfortable and it fits in with the Y's goal of having an energy efficient, green facility.

Overhead, a six-blade Fusion large fan circulates the air in the room, ensuring that the area is warm in winter and cool in summer. Along with making the room comfortable, the fan enabled the Nashua Y to minimize their investment in their HVAC system.

The Kelley FUSION HVLS large fan produces a large column of air that flows down toward the pool floor then outward in all directions, creating a deep "horizontal floor jet" that circulates air vertically up the walls and then draws it back to the central column,



where it again flows toward the floor. This performance is optimized by the fan's unique design and its lightweight (single piece precision) extruded aluminum blades.

For the Nashua Y this fan offers an additional benefit. The fan mixes the warm air radiating off of the pool water with the airflow generated by the HVAC system, reducing the system's need to generate warm air. "We were interested in the fan's destratification capabilities which would prevent the air we need for building comfort from stalling at the ceiling." The FUSION HVLS Large Fan's ability to run in reverse in winter

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Form#: KCS-NHY01-0312

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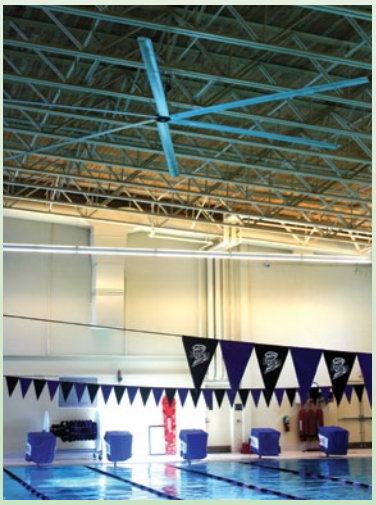

months effectively circulating the warm air from ceiling to floor was very important. As a result, swimmers are comfortable in and out of the water during the winter.

In addition to its ability to help with heating in the winter, Kelley FUSION HVLS large fans can also help cool the facility down in the hot New Hampshire summers. The afternoon sunlight pouring through the very large west window heats the pool area, which is not air conditioned. Run in normal forward operation, the fan produces circulation that breaks the moisture barrier on the skin. This reduces the perceived temperature by eight to ten degrees.

Mike Powers, Properties Director for the YMCA of Greater Nashua and supervisor of construction for the building noted that part way into the planning stage with the mechanical engineers, they discovered that airflow requirements would prevent the ductwork fitting between the joist structures. Instead, it would be suspended from the ceiling making for a potentially unattractive and more expensive pool area.

Karl Rausch, with Dock and Door Handling, the Kelley distributor in Portland, Maine, pointed out that the HVLS fan could supplement the building's air circulation system, enabling them to shrink the ductwork diameter by six to eight inches. "That decision not only added to the aesthetics of the pool area," says Powers, "the savings in ductwork partially paid or the fan, enabling us to save even more money thanks to the fan's operating characteristics."

While the heating and cooling properties of the fans were important to the Y, so was the ability to easily maintain them. The 6-blade design of the Kelley FUSION HVLS large fan creates less torque than the 10-blade competitive fans available on the market. The decrease in torque on the motor can substantially increase the life of the fan. "This is an important consideration to us," says Powers, "because the fan is directly over the middle of the pool and maintenance would be extremely difficult." Powers also notes, "From both an aesthetic and mechanical perspective, having the fan is better for the building, especially when the outside temperature reaches below zero."

The Nashua YMCA projects the new building will lead to a membership growth of 50% in the next few years. The board is looking to add about 13,500 people from the Nashua area and even from neighboring Massachusetts. Thanks to their attractive, well-outfitted building and the comfort provided by the Kelley HVLS large fan, they can reach this goal.

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