

**Challenge:**

Ensure comfortable and safe climbing conditions for all customers and staff by constantly and quietly moving a large volume of air throughout the climbing center.

Solution:

Two 20-foot diameter Entrematic I-Class™ industrial HVLS fans that provide even airflow distribution and consistent interior temperatures.

Results:

Working in tandem with the facility's HVAC system, climbers' hands stay much dryer as they work out in ideal inside temperatures of 72 to 75 degrees (F) in the summer and a constant 68 degrees (F) during winter months.

Application:

Origin Climbing & Fitness Center

Environment:

Recreational Climbing Facility/
Bouldering Gym

Geography:

Henderson, Nevada

Two I-Class™ HVLS Fans Keep Climbers' Hands High & Dry at Origin Climbing

Anyone who has spent a few hours actively climbing at an indoor climbing center will tell you it was time well spent. The same holds true for climbing in the great outdoors. That is, as long as the weather cooperates.

Indoor climbing, however—where there are no worries about inclement weather or outdoor safety issues like falling rocks—offers two powerful health benefits.

First, climbers gain physically from their workouts, including a positive impact on the cardiovascular system, increased strength and balance as well as improvements in flexibility from stretching. Second, climbers experience varying degrees of mental and emotional stimulation not offered by other types of exercise that are found in traditional health clubs.

One of the best sports in the world

Co-founders John Wilder and Andy Raether spent about three years diligently planning how their Origin Climbing & Fitness Center would function and operate prior to opening to the public in May 2015. Originally distribution warehouse space in a pre-existing building, Origin Climbing's interior was completely custom designed for its intended purpose: climbing and fitness.

Together, Wilder and Raether embarked on a simple mission: bring what they firmly believe is "one of the greatest sports in the world" to the entire Las Vegas community, not just those interested in climbing. So whether a customer is in grade school or retired from a long and active career—and can easily navigate stairs—they can benefit from Origin Climbing's more than 500-plus climbing problems throughout its expansive 23,000 square-foot facility.

In fact, Origin Climbing is the largest climbing facility in the region, and one of the largest bouldering gyms in North America. The center, which can accommodate up to 400 customers actively climbing at any given time, also features more than 100 roped routes that include lead climbing, top ropes, and auto-belay routes.

Every week, Origin Climbing's customers can expect to select from at least 50-60 new boulder problems along with up to a dozen new routes created by the center's USA Climbing-certified setting staff. Origin's staff create the boulder problems and routes using Raether's extensive and colorful "hold" collection set (mounted) three days a week to the center's vertical and overhanging climbing walls.

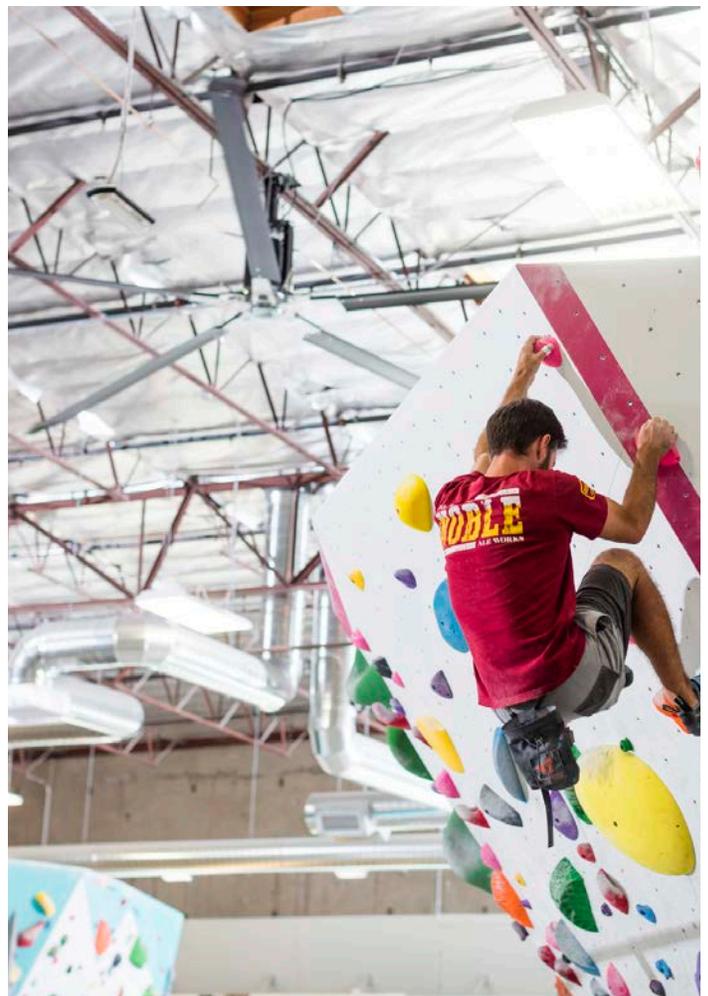
Customer comfort and safety are vital

In addition to a variety of safety measures—which includes heavily padded cushions under all climbing walls—providing a sufficient amount of air movement in the facility is vital. Proper air movement directly affects customer comfort in the region's hot climate, especially during the summer months.

Origin Climbing does feature an array of exposed HVAC ductwork throughout its open structure ceiling. Vents then help deliver conditioned air to every climbing area, as well as the center's weight training area and yoga studio.

However, to keep a large volume of that conditioned air moving efficiently throughout such a large facility, keep the temperature consistent throughout and reduce the burden on its HVAC system, Origin Climbing relies on two strategically placed 20-foot Entrematic I-Class™ industrial HVLS (high volume low speed) fans spaced about 70 feet apart.

"Our main goal with the HVLS fans was to provide a substantial amount of air circulation in the facility without creating a lot of noise," Raether pointed out.



"The fans and A/C working together help to keep climbers' hands cool and dry, instead of sweating, which ensures firmer grips on the climbing holds."

– Andy Raether, Facility Manager, Head Route Setter & Coach, Origin Climbing & Fitness Center, Henderson, Nevada

"Mixing the air at the top and bottom of the facility really helps to keep our interior at an even air temperature." Raether added that Origin Climbing's open structure ceilings are 30 feet high in the main climbing areas. Having such a high ceiling provides the center plenty of room vertically to build even taller climbing walls in the future.

Avoiding blockage to maximize airflow

Origin Climbing worked carefully with Entrematic Fans' engineers on the ideal locations for the HVLS industrial fans. "We purposely avoided installing the fans directly above any climbing walls because the airflow would be blocked," explained Raether. "Instead, we installed the fans above more open areas in the center of the facility."

During the summer months, especially, Origin Climbing keeps its fans operating at the highest speed setting. When outdoor temperatures reach extremes in excess of 100 degrees (F), this allows Origin Climbing to maintain a satisfactory indoor temperature range of 72 to 75 degrees (F).

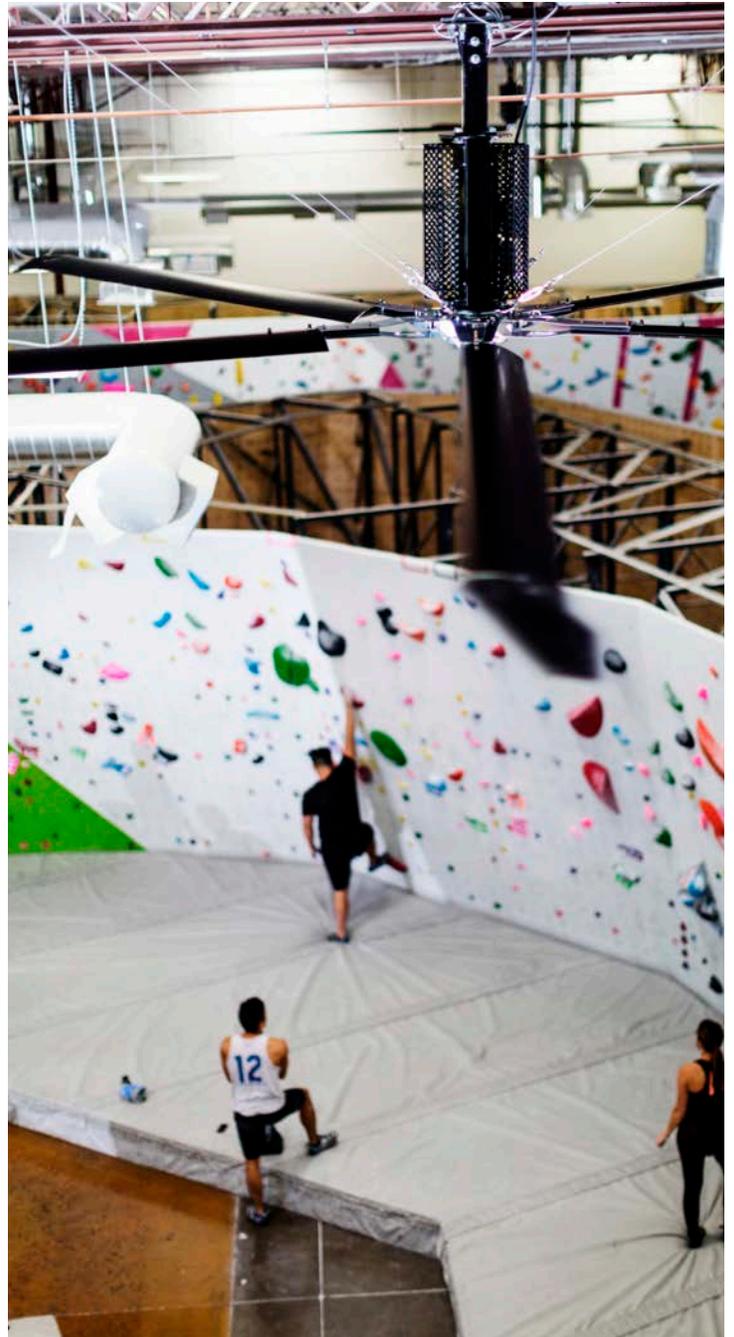
The temperature differential between the outside and inside is significant to customers when outdoor temperatures are so high, Raether pointed out.

"If the HVLS fans weren't operating, the facility would feel up to 10 degrees warmer, even with the A/C running, so customers do notice the cooler atmosphere inside versus what they're experiencing outside," he added. In the winter, when outdoor temperatures are significantly less during both the daytime and evening hours, Raether said the fans operate at a slower speed. The facility then maintains an interior temperature of about 68 degrees (F).

Dryer hands equal a safer climb

"At the fastest speeds, we get a real whirlwind effect throughout all of the climbing areas, and that works out great for us when we have a larger number of customers working out," Raether noted. "Even though we do get occasional comments about the air temperature being too cold when customers aren't actively climbing, we'd rather have it that way because the fans and A/C working together keep climbers' hands cool and dry, instead of sweating, which ensures firmer and safer grips on the climbing holds."

Even though Origin Climbing is not a 24-hour operation, it does close as late as 10 p.m. on weekdays. After that, the facility's air conditioning is turned back and the HVLS fans are turned off. "When we open up the following morning after the air temperature inside has risen overnight in part due to the heat radiating downward from the hot ceiling, the fans quickly circulate the conditioned air to the comfort level we need for our customers," Raether said. "As a result, there's no need to run the fans or the A/C after closing, which helps us save on energy costs."



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As with any large interior space—including a distribution warehouse center turned climbing and fitness center—HVAC systems only condition the air, not mix it. With the help of its two HVLS industrial fans, Origin Climbing has been able to meet its goal of providing customers a quiet, yet highly effective way of keeping them cool, comfortable and safe in what can be a brutally hot region of the U.S.

For more information about Entrematic Fans' HVLS industrial fan products and features, log on to www.entrematicfans.com/industrial or contact us at **866-696-2464**.

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