



E-Book:

NOT A FAN OF HIGH ENERGY COSTS?

THEN SPIN DOWN YOUR SPENDING

RITE·H[↑]TE[®]
ALWAYS LOOKING AHEAD

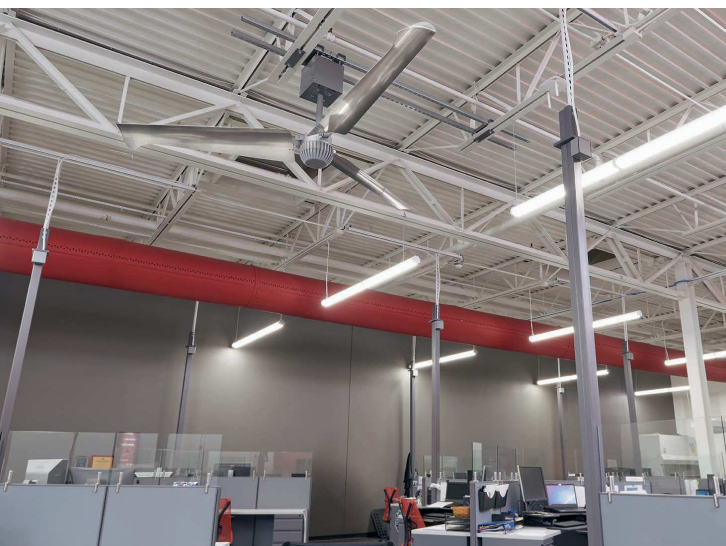


IMPACT OF RISING ENERGY COSTS

Energy efficiency is one of the biggest concerns for facilities of all sizes. Rising energy costs can make heating and cooling a large space very expensive. According to the U.S. Energy Information Administration, nearly one-third (32%) of the energy consumption (natural gas) for large commercial buildings is used for heating or cooling purposes.¹ This is even more extreme in warehouses, with approximately half (51%) of a facility's total energy usage from heating and cooling.

Energy expenses for a warehouse facility can account for more than 10% of the total revenue.

**MORE THAN HALF (51%)
OF A FACILITY'S TOTAL ENERGY USAGE
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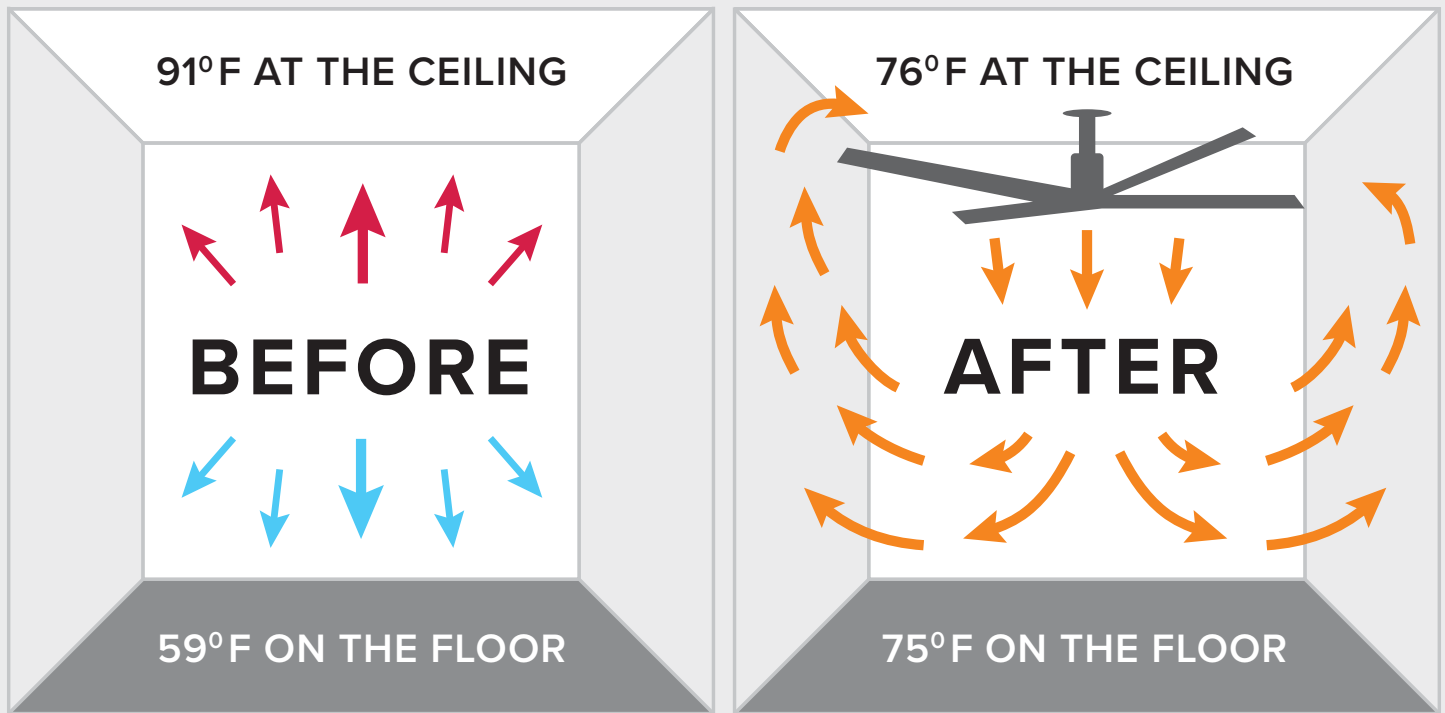
AN INNOVATIVE SOLUTION TO MANAGE COSTS

Combined with the rising cost of energy, there is increased pressure to operate efficiently. This often leaves facility managers charged with developing innovative ways to cut costs. High-volume, low-speed (HVLS) fans used alone or in tandem with heating, ventilation and air conditioning (HVAC) systems are an affordable option for controlling costs without compromising comfort.

Unlike a traditional ceiling fan, just one HVLS fan is capable of covering extremely large spaces for a fraction of the energy consumption costs. Some of the primary applications include large industrial spaces such as manufacturing facilities and distribution centers, however HVLS fans demonstrate similar benefits for large commercial spaces, such as schools, offices, restaurants, worship facilities and big box retailers.



**HVLS FANS CAN GENERALLY
PAY FOR THEMSELVES
AFTER JUST 1 YEAR**



Creating Comfortable Work Environments

WINTER HEATING

In the cooler months, the floor-to-ceiling temperature differential (stratification) can be as much as 20 degrees Fahrenheit, with warmer air gathering at the ceiling and cooler air falling to the floor. This happens because the heated air from a forced-air system is less dense than ambient room air, causing the warmer air to naturally rise to the ceiling. A ceiling fan is a logical choice to push the warm air from the ceiling to ground level and mix with the cooler air, creating a uniform temperature throughout the entire facility.

Traditional fans move air quickly, but are extremely inefficient in recirculating air effectively. The rapid

blade movement forces warm air from the ceiling outward instead of downward to mix with cooler air at the ground level. Because the air is never destratified, the temperature difference from ceiling to floor is not properly balanced and causes the HVAC system to work harder.

By slowing the speed of an HVLS fan or putting it in reverse, warm air is redirected from the ceiling to the ground level while the cooler air at the floor is pulled back up to the ceiling. This increases comfort on the floor as warm air circulates downward, instead of being trapped at the ceiling. This process can significantly reduce energy consumption.



Creating Comfortable Work Environments

SUMMER COOLING

Air conditioning is typically the default cooling method during warmer months. However, the expense of using an A/C system can be substantial depending on building size, occupancy level and required tonnage.

In a warehouse or other industrial facility, large doorways, loading docks, windows and other open areas make it difficult to create a consistent climate. Room air can have several temperature and humidity layers if it does not circulate properly during the summer heat.

The use of an HVLS fan helps maintain consistent temperature and humidity levels by moving cooler air from the HVAC unit throughout the entire space.

Installing an HVLS fan in a central location can maximize air dispersion, causing more efficient air circulation and accelerating evaporation of sweat on the skin to create the feeling of a cooler work environment.

Studies have shown that the use of an HVLS fan in combination with an A/C system can decrease the effective temperature between 10 and 15 degrees Fahrenheit without lowering the thermostat.* The increased air circulation from an HVLS fan could allow a facility to raise its air conditioning temperature as much as 4 degrees Fahrenheit while maintaining the same level of cooling comfort.

**Based on ASHRAE 55 calculations.*

OTHER BENEFITS FOR WORK ENVIRONMENTS

Energy efficiency is just the tip of the iceberg with regard to how HVLS fans help improve work environments. The cost savings realized – especially when using local or state utility rebate incentives – as they work together with existing HVAC systems plays a large part in why HVLS fans are a popular addition to the design components of large commercial structures. However, there are many other benefits to consider.

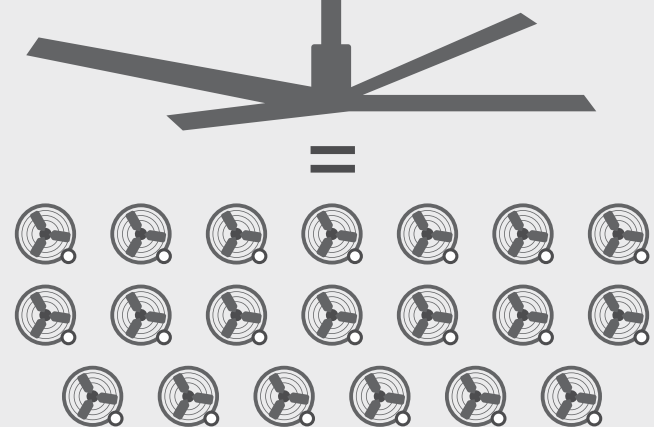
Reduce carbon footprint – There are real energy savings to be had when using a single HVLS fan instead of multiple traditional fans. A facility's energy consumption can be reduced by as much as 30%.

Remove stagnant air and moisture – HVLS fans help create a healthier work atmosphere by circulating air efficiently throughout the facility and removing pollutants that can cause illnesses due to Sick Building Syndrome (SBS) and other air quality issues. Removing moisture can reduce the likelihood of warmer air condensing on the floor, known as Sweating Slab Syndrome (SSS), and causing a slip hazard.

Maintain product quality – Whether it's food and beverage stored in critical environments or finished products ready to be shipped, HVLS fans can help prevent spoilage or damage related to improper temperature and humidity levels.

Deter birds and other pests – HVLS fans are a great way to keep birds, bugs and other flying wildlife out of spaces where doors open and close frequently.





**A SINGLE HVLS FAN CAN EQUAL
UP TO 20 SMALLER FANS**

WHY HVLS FANS?

More facilities managers are realizing the benefit of harnessing the power from HVLS fans as a complement to their current HVAC systems. They help reduce costs and increase the efficiencies of a facility's HVAC systems while creating temperature moderation. Furthermore, HVLS fans can move larger volumes of air than traditional floor or ceiling fans. A single fan can cover expansive areas and can replace as many as 10 to 20 floor fans, or smaller ceiling fans.

WHY RITE-HITE?

Blade design – The unique Propell-Aire™ blade design by Rite-Hite® has a complex contoured shape (tilt, taper and twist) that varies along its length. It is the shape, not the number of blades, that generates the large volume of air movement needed for an effective HVLS fan.

Blade/hub connection – Rite-Hite fans come with a 10-year structural integrity warranty that covers the blade-to-hub connection if it fails to perform as designed. This connection is critical, because like the blades of a helicopter, a combination of centrifugal force and air pressure causes the blades to move upward during operation.

Safety – All Rite-Hite HVLS ceiling fans have a three-way motor-to-hub safety connection, as well as redundant stabilizing cables and mounting bracket.

Local service & support – Rite-Hite is committed to manufacturing the highest quality product and is supported by the best installation and service network in the industry. Installation, technical support and local sales and service representatives are available throughout the lifetime of your product.

Contact us to request a free building assessment. We'll work with you to determine the appropriate size, quantity and placement of HVLS fans to benefit your facility.

For more information, visit ritehitefans.com.

R1. <https://www.eia.gov/energyexplained/use-of-energy/commercial-buildings-in-depth.php>
Rite-Hite® is a world leader in the manufacture, sale and service of loading dock equipment, industrial doors, safety barriers, HVLS fans, industrial curtain walls, and more - all designed to improve safety, security, productivity, energy consumption, and environmental control. www.ritehitefans.com

