NORTEX

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# HVLS FAN BUYING GUIDE

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CONTENTS


## Introduction:

# #1 GLOBAL LEADER

Since 1963 Blue Giant has been a part of the loading dock and material handling industry. With over 50 years of experience, Blue Giant is a global leader in the development, manufacture, and distribution of loading dock systems and material handling equipment.

*"Our Strength is our people and our passion is our product."*

**BLUE GIANT**

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# WHAT IS HVLS FANS?

HVLS is shorthand for high-volume low-speed. It dates back to the late 1990s when William Fairbank and Walter K. Boyd invented and patented the first HVLS fan. It was developed for agricultural applications and dairy production. Consumers have the option of choosing between ceiling fans (a common option) or portable floor fans.

High-volume low-speed fans don't require a lot of speed like your typical household ceiling fan to move the air around.

It relies on its long wing blades to circulate the air.

These fans were engineered to provide thermal comfort to every type of worker during every season in the most energy-efficient way.

Designed with the goal of Improving air circulation, these HVLS fans replace the hot, humid air with drier air, which can prevent moisture buildup, reduce slip hazards, and allergies, and improve overall air quality. Some of the many benefits of an HVLS fan.

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# HOW DOES IT WORK?

We all know that warmer air rises because it's lighter and cold air sinks because it's denser (this process is called thermal stratification). Air can become stagnant during this process and become problematic. Why? There is no airflow to help circulate the air.

HVLS fans solve that problem. The blades produce enough power to move air from the ground to the ceiling and vice versa without disturbing the occupant. The air mixes creating a cooling or heating effect that is distributed evenly throughout the space ultimately leading to cost and energy savings.

## STRATIFICATION

Stratification is the process of forcing cooler air to the ceiling level.Thermal stratification is a common problem facilities face with ceilings taller than 4 m.

This is especially problematic in industries where cool temperatures are essential in keeping and preserving goods. Inconsistent temperatures can affect the shelf life of many products which can cost a company hundreds or thousands of dollars.

## DESTRATIFICATION

Destratification is the process of forcing warmer air to the ground level breaking up thermal stratification. This process can help with reducing energy bills and maintain a comfortable temperature throughout the facility.

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# APPLICATIONS:
# HVLS FAN

## AGRICULTURE

- Maintain a comfortable temperature
- Reduce food spoilage
- Keep animals healthier
- Keep bugs away
- Reduce unpleasant smells
- Improves air quality by efficiently circulating the air

## MANUFACTURING

- Increases productivity by keeping employees cool and happy
- Prevents condensation from building up on cement floors
  - Prevent sweating slab syndrome (slip hazards)
- Reduce pest control
  - Preven birds from flying indoors
  - Blades produce a high-velocity airflow pushing bugs away

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# APPLICATIONS:
# HVLS FAN

## Barns, Riding & Equestrian

- Maintain a comfortable temperature
- Quiet, won't bother animals
- Saves space
- Keeps bugs away
- Reduce unpleasant smells
- Improves air quality by efficiently circulating the air

## INDUSTRIAL

- Maintain a comfortable temperature
- Increases air circulation
  - Reduces stagnant air
  - Reduces the concentration of fumes
  - Reduces cold spots or hot spots
- Evenly distributes/circulates air
- Quiet

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# APPLICATIONS:
# HVLS FAN

## Food & Beverage

- Maintain a comfortable temperature for workers
- Increases productivity by keeping employees cool and happy
- Prevents condensation from building up on floors
  - Prevent sweating slab syndrome
  - Prevent metal from rusting
- Blades produce a high-velocity airflow pushing bugs away

## GYM

- Maintain a comfortable temperature for employees and members
- Increases air circulation
  - Reduces stagnant air
- Eliminates cold spots during the winter months

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# APPLICATIONS:
# HVLS FAN

## COMMERCIAL

- Deliver increased comfort at a low energy cost
- Energy-efficient
  - Low energy bill
- Eco-friendly
- Work with your HVAC system
- Gently distributes heated air in the winter
- Creates a cool breeze in the summer
- Control one or more fans individually or grouped together

## AVIATION HANGARS

- Maintain a comfortable temperature for employees & members
  - Cheaper option to heat & cool
- Works with heating/cooling system to destratisfy the air
- Increases air circulation
  - Reduces stagnant air
- Eliminates cold spots during the winter months

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# BENEFITS

## 01 FEEL COOLER

The High Volume Low-Speed Fan is able to make the “feel like” temperature much lower than the actual temperature in the building. By evenly dispersing the cool air throughout the space, you can feel 10° - 15° cooler.

## 02 FEEL WARMER

Through a process called destratification, High Volume Low Speed (HVLS) fans are very effective in the winter. The fan equally distributes the warmer air with the cooler air to create an even temperature throughout the space.

## 03 REDUCE COSTS

Reduce the cost of your bill by up to 50%.

It can also reduce building costs by lowering the required HVAC tonnage and ductwork.

## 04 IMPROVE AIR QUALITY

If your facility or building doesn’t have good air circulation, unhealthy air can stay stagnant within the building. Stagnant air can be extremely unhealthy for employees.

Installing an HVLS fan can help to ventilate the building more effectively and efficiently by creating consistent and balanced airflow throughout the space.

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# BENEFITS

## 05 ECO-FRIENDLY

By installing HVLS fans, you can reduce your carbon footprint. No fossil fuels or harmful chemicals like refrigerants are needed.

## 06 ENERGY EFFICIENT

Blue Giant HVLS Fans rely on the size of the blades rather than the speed to control the temperature. The innovative blade design moves more air with less energy resulting in energy cost reduction of up to 30% during the winter and summer months.

Did you know that high-speed fans (like floor fans for instance) can actually take 6x's more energy to run compared to HVLS fans?

## 07 HEALTHIER & SAFER

Installing an HVLS fan can reduce condensation, corrosion, and mold. Reducing condensation on floors can prevent metal and other materials and equipment from rusting.

The slow-moving blades are also beneficial because they don't kick up allergens and irritating dust and debris. In facilities where doors are kept open, HVLS fans can discourage birds from perching and nesting.

# BENEFITS

## 08 SAFE WORK ENVIRONMENT

HVLS fans are installed in the facility's ceiling which can save you space. Since the fan can be used all year round you don’t have to worry about finding a place to store it during the off-season.

Another safety perk is that it reduces the risk of tripping hazards for employees. You don’t have to worry about navigating around floor fans, tripping on cords, or making sure the fan(s) are plugged in.

## 09 NOISE LEVEL - SILENT OPERATION

Has a rated noise level of less than 45 dBA. To give you an idea here are some comparisons:

- Soft whisper at 4.5 meters - 30 dBA
- Suburban area at night - 40 dBA
- Bird twitter outside at 15 meters - 50 dBA
- Household refrigerator - 55 dBA

## 10 CUSTOMIZABLE DESIGN

Choose what blade size you want.

- Falcon III - 3 Blade: Sizes of 6’ (1.8m) to 14’ (4.3m)
- Hawk V - 5 Blade: Sizes of 10’ (3.0m) to 24’ (7.3m)
- Eagle VI - 6 Blade: Sizes of 12’ (3.6m) to 24’ (7.4m)

# BENEFITS

## 11 AUTOPILOT FAN CONTROLLER

The 6” (153mm) x 3.375” (86mm) LCD touchscreen display panel creates a seamless experience for the operator. The touchscreen panel has an 800 x 480-pixel display and is password-enabled.

Control one or multiple Blue Giant fans individually or together. Change the fan rotation direction and speed, synchronize all fans, and ungroup fans to operate separately just with the touch of a button.

*Other Blue Giant fan controller options are available: Touch-N-Go, Touch-N-Go Premier, Multi-Yoke Controllers, Radar Fan Controller, VLD Fan Controller, and UltraLite-Fan-Controller.

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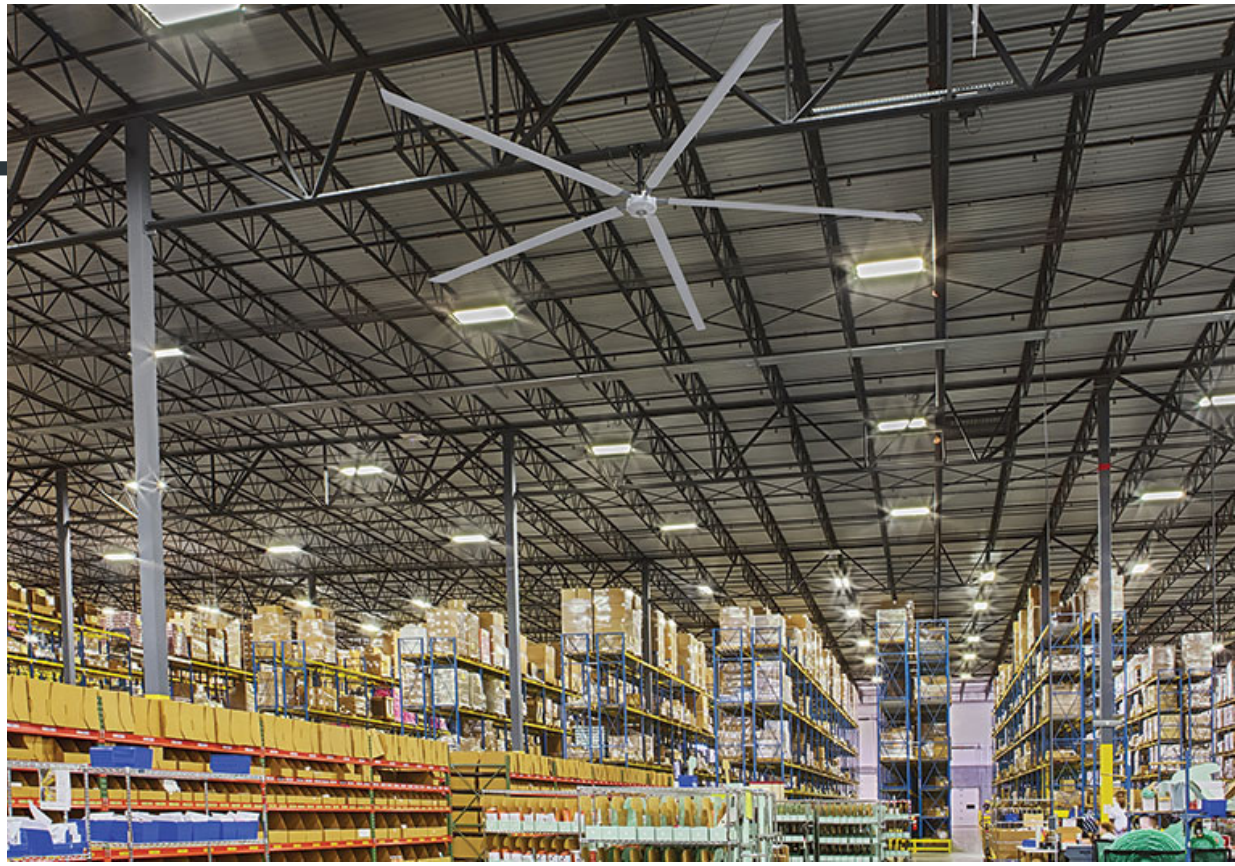
# INGRESS PROTECTION (IP)

A critical factor when considering purchasing an HVLS fan is the environment in which the fan will be installed and operating in. Disregarding this when making your purchasing decision can inhibit performance, reliability, lifespan, and safety.

Understanding the Ingress Protection Rating can help to ensure you purchase the right equipment to meet your needs.



## IP RATING SYSTEM

# WHAT IS MOTOR IP

IP is the abbreviation for Ingress Protection. IP classification is used to measure how well a motor can withstand the ingress of dust and water. Following the letters, “IP” are two numerals, the first signifying the resistance to dust and the second to water.

IP rating helps to define the level of protection needed for equipment used in an environment where dust, particles, water, etc. can compromise the motor and thus performance. The rating scale for motor IP ranges from IP00, no protection, to IP66, complete protection.

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# BLUE GIANT IP55 MOTOR

First Numerical Protection Against Contact and INgress of Foreign Bodies

- Complete protection against contact with live or moving parts inside the enclosure. Protection against harmful deposits of dust. The ingress of dust is not totally prevented, but cannot enter in an amount sufficient to interfere with the satisfactory operation of the machine.

Second Numerical Protection against water

- Water projected by a nozzle against the enclosure from any direction.

## IS IP55 MOTOR WATERPROOF?

It is not impervious, but it is protected from water projected by a nozzle against the enclosure from any direction.

## IS IP55 MOTOR PROTECTED FROM SOLIDS??

Complete protection against contact with live or moving parts inside the enclosure. Protection against harmful deposits of dust. The ingress of dust is not totally prevented, but cannot enter in an amount sufficient to interfere with the satisfactory operation of the machine.

# BLUE GIANT FALCON III: SPECIFICATIONS

It is not completely impermeable to weather conditions. Long periods of exposure to water, snow, or ice can allow time for liquids to seep through any gaps and cause damage to the motor. Short periods of exposure to liquids won't cause damage even if the motor comes in contact with some liquids.

## FEATURES

- Custom engineered 3 STOL-inspired extruded aluminum airfoils contoured for maximum air movement to make the environment cooler faster
- Wingtips decrease vortexes that are harmful to the efficiency of the fan
- Environmentally durable chassis resists rusting and corrosion even in cold and damp environments
- Extension bar to allow different sizes to suit the layout and requirements
- Touchscreen controller to control two or more HVLS fans
- Totally enclosed, fan-cooled (TEFC) IP55 Motor with precision finished gearbox
- Seal with lifetime synthetic oil
- Robust 3-inch output shaft for strength with nylon bushing on input
- Single phase available: 110V or 230V with both 50Hz, and 60Hz
- Three phase available: 230V, 460V, or 575V with both 50Hz, and 60Hz

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# BLUE GIANT FALCON III:

## CHARACTERISTICS

- Protection from dirt, dust, oil, and other non-corrosive material
- Complete protection from contact with enclosed equipment
- Protection from water, up to water projected by a nozzle against enclosure from any direction
- Airfoil Number: 3
- Airfoil Material: Aluminum
- Airfoil Finish: Anodized Aluminum
- Motor Frame Finish & Color: Powder coat black
- Motor Drive Type: Gearbox
- Motor Type: TEFC
- Motor Rating: IP55
- Motor HP: 1.0
- Motor RPM: 124, 105, 86, 73, 55, 49, 42
- Installed Weight (lb): 217, 223, 229, 235, 241, 247, 260
- Diameter (ft): 10, 12, 14, 16, 18, 20, 24

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# BLUE GIANT HAWK V: SPECIFICATIONS

## FEATURES

- Custom engineered 5 STOL-inspired nill finish aluminum airfoils contoured for maximum air movement to make the environment cooler faster
- Wingtips decrease vortexes that are harmful to the efficiency of the fan
- Environmentally durable chassis resists rusting and corrosion even in cold and damp environments
- Extension bar to allow different sizes to suit the layout and requirements
- Touchscreen controller to control two or more HVLS fans
- Totally enclosed, fan-cooled (TEFC) IP55 Motor with precision finished gearbox
- Seal with lifetime synthetic oil
- Robust 3-inch output shaft for strength with nylon bushing on input
- Single phase available: 110V or 230V with both 50Hz, and 60Hz
- Three phase available: 230V, 460V, or 575V with both 50Hz, and 60Hz

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# BLUE GIANT HAWK V:

## CHARACTERISTICS

- Protection from dirt, dust, oil, and other non-corrosive material
- Complete protection from contact with enclosed equipment
- Protection from water, up to water projected by a nozzle against enclosure from any direction
- Airfoil Number: 5
- Airfoil Material: Extruded Aluminum Alloy
- Airfoil Finish: Matte Finish
- Motor Frame Finish & Color: Powder coat black
- Motor Drive Type: Gearbox
- Motor Type: Open Drip Proof
- Motor Rating: IP55
- Motor HP: 1.0
- Motor RPM: 85, 75, 64, 55, 53, 42
- Installed Weight (lb): 236, 246, 256, 266, 277, 287, 307
- Diameter (ft): 10, 12, 14, 16, 18, 20, 24

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# BLUE GIANT EAGLE VI: SPECIFICATIONS

## FEATURES

- Custom engineered 6 STOL-inspired aluminum airfoils contoured for maximum air movement to make the environment cooler faster
- Wingtips decrease vortexes that are harmful to the efficiency of the fan
- Environmentally durable chassis resists rusting and corrosion even in cold and damp environments
- Extension bar to allow different sizes to suit the layout and requirements
- Touchscreen controller to control two or more HVLS fans
- Totally enclosed, fan-cooled (TEFC) IP55 Motor with precision finished gearbox
- Seal with lifetime synthetic oil
- Robust 3-inch output shaft for strength with nylon bushing on input
- Single phase available: 110V or 230V with both 50Hz, and 60Hz
- Three phase available: 230V, 460V, or 575V with both 50Hz, and 60Hz

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# BLUE GIANT EAGLE VI:

## CHARACTERISTICS

- Protection from dirt, dust, oil, and other non-corrosive material
- Complete protection from contact with enclosed equipment
- Protection from water, up to water projected by a nozzle against enclosure from any direction
- Airfoil Number: 6
- Airfoil Material: Aluminum
- Airfoil Finish: Anodized Aluminum
- Motor Frame Finish & Color: Powder coat black
- Motor Drive Type: Gearbox
- Motor Type: TEFC
- Motor Rating: IP55
- Motor HP: 1.0 or 1.5
- Motor RPM: 85, 75, 64, 55, 50, 42
- Installed Weight (lb): 274, 286, 298, 310, 323, 335, 360
- Diameter (ft): 10, 12, 14, 16, 18, 20, 24

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