



KELLEY

ENTRE/MATIC



WAVE™

HVLS FANS

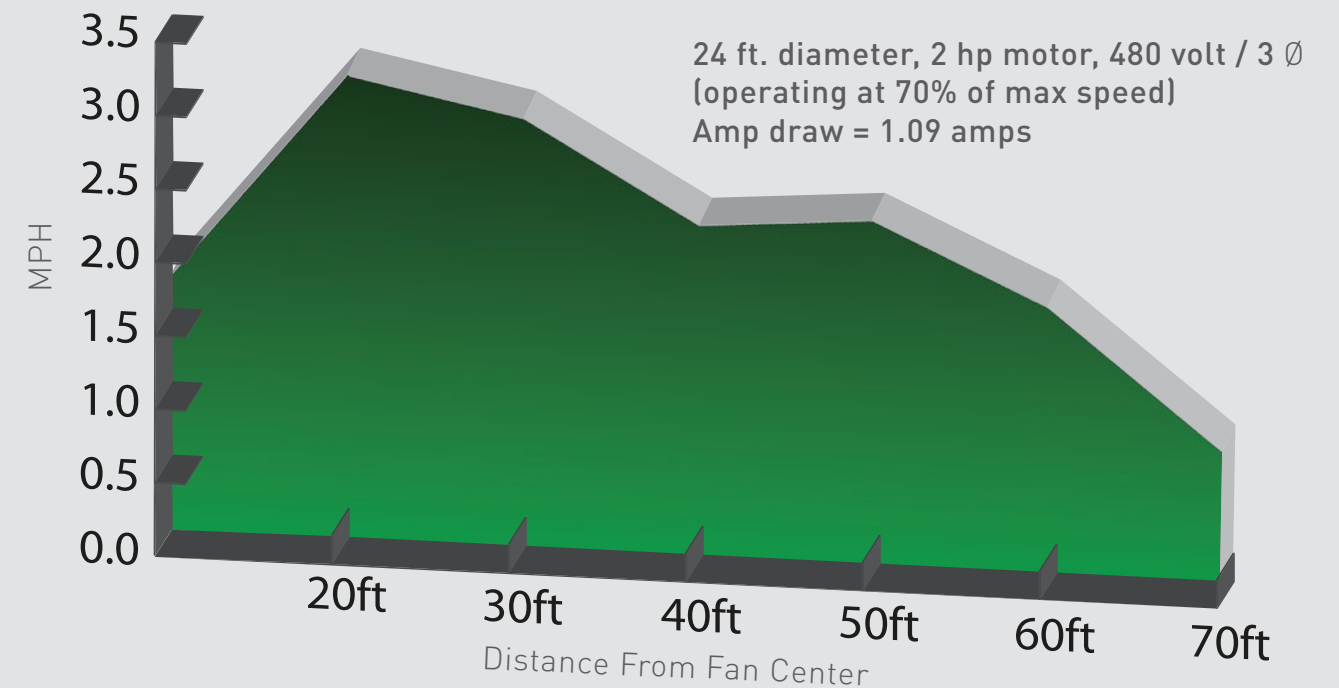
Kelley High Volume Low Speed fans are designed to provide an energy-efficient solution for large spaces. HVLS fans require much less energy than traditional HVAC systems, and provide year-round employee comfort and temperature control.

ADVANCING HVLS technology through controls and energy efficiency

Kelley engineers build solutions through innovative products, and they've followed suit with the Kelley WAVE™. This fan is advancing HVLS technology through controls, improved airflow and energy savings. It's all about moving more air and saving more energy. The Kelley WAVE features an advanced blade profile which means more lift while the five (5) blade design results in less stress to your building. The combination of these engineering discoveries equates to an increase in airflow without increasing energy usage. And, your Kelley WAVE HVLS fan arrives ready to be connected to your fire suppression system for added safety and function.

- Keeps employees cool and comfortable**
 - The 2 - 3 mph breeze created by Kelley fans delivers the equivalent of a 7 - 11 degree decrease in perceived temperature
 - Research supports that increased employee comfort can result in improved productivity and safety
- Reduces energy consumption**
 - Working with the HVAC system, Kelley fans help regulate temperature from ceiling to floor, which can allow a facility to raise its thermostat setting 3 - 5 degrees. This creates a potential energy savings of up to 4% per degree change
- Protect product integrity**
 - Air circulation helps keep food and produce dry and fresh, reducing potential for decay or spoilage
 - Air circulation reduces stagnant air, hot and cold spots and condensation
 - Kelley fans are also designed to operate in reverse, which helps de-stratify air in cool season operation
- Improves general working conditions**
 - Floor condensation is minimized, keeping floors drier and safer for foot and motorized traffic
 - Improved indoor air quality through the dispersing of fumes
 - Fans can be operated from a centralized location using Kelley iFAN network controls (sold separately), allowing a facility to easily monitor fan activity and performance
- Contributes to LEED certification credits in various categories**
 - Energy and Atmosphere
 - Indoor Environmental Quality
 - Innovation and Design

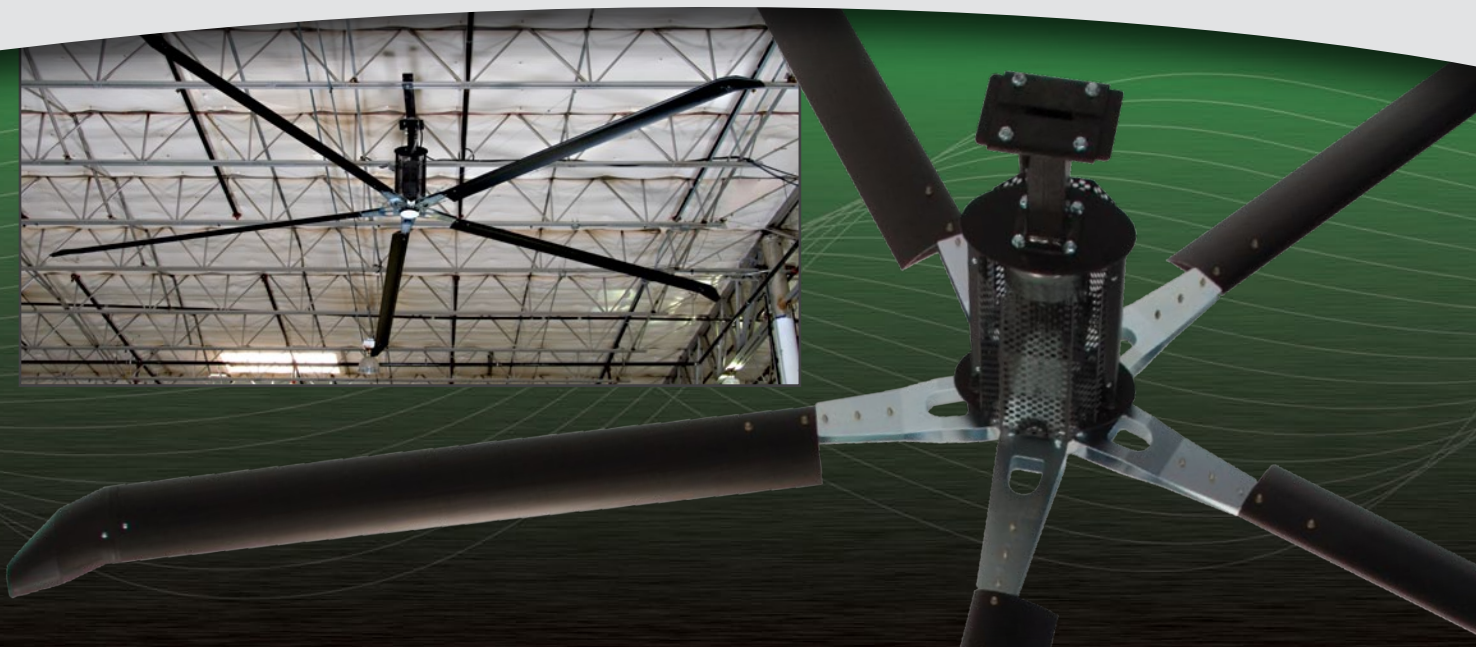
Kelley WAVE fans don't just move air, they circulate efficiency and positively impact many factors in your facility. The gentle mass of air or the "floor jet" balances the internal environment by creating a more even temperature, protecting product integrity, avoiding potential spoilage and increasing employee comfort. The even coverage provided by a Kelley WAVE fan works to reduce moisture in the air which helps to keep your floors drier and safer for your employees.



1.09 amps (operating at 70% of max speed) at 480 volt / 3 Ø = 830 watts
 Average electrical cost = \$0.10 kWh
 Energy cost = voltage x current x $\sqrt{3}$ x hours used x cost per kWh
 $480 \times 1.09 \times 1.73 \times (24 \times 365) / 1,000 \times \$0.10 = \underline{\$792.90}$

HOW HVLS FANS WORK

The Kelley WAVE airfoil style blade design produces a massive, cylindrical column of air that flows down to the floor and outward in all directions, creating a horizontal floor jet that consistently circulates air in large spaces. This "horizontal floor jet" pushes air a greater distance before it is pulled back vertically toward the blades. The greater the down flow, the greater the air circulation and resulting benefits. In the colder months, fans can be run in reverse to circulate the hot air trapped at ceiling level known as "destratification".



PRODUCT Components

- **VFD Assembly:**

- High efficiency Variable Frequency Drive (VFD)
- In line fusing with disconnect
- VFD mounted outside swept area of the blades
- Supplied with 25' of 14 gauge SO cable (pre-wired to motor) from the factory
- Easy integration for networking or integration into fire suppression panels



- **Frame and mounting hardware:**

- Aesthetically pleasing frame cover allows for a wider range of applications
- Single axis mount decreases potential fan movement while maintaining low torque transfer
- Mount self levels on pitched sloped roofs for easy installation

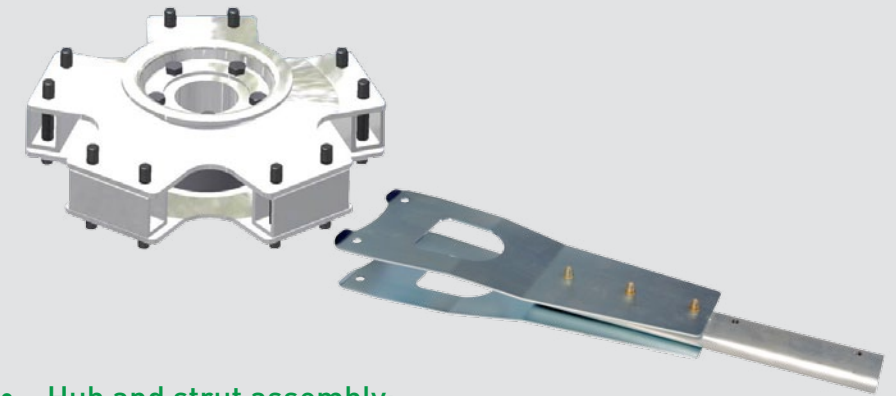


- **Remote:**

- Digital touch screen
- Numerical pass code protection
- Floor level diagnostics
- CAT5 E low voltage connection

- **Hub and strut assembly:**

- Patent-pending M3 strut design adds strength and rigidity to improve fan performance
- Multi-piece aluminum hub distributes the load across the hub assembly
- Three point safety connection system provides redundant safety



PRODUCT SPECIFICATIONS

Diameters: 8', 10', 12', 14', 16', 18', 20', 24'

Controls: Digital touch screen remote (connection via CAT5E cable)

Voltage: 208-230V 1Ø or 3Ø, 460-480V, 575V 3Ø

Motor: 1 HP (8-20') and 2 HP (24')

Coverage: Up to 30,000 sq ft with a 24' fan (Floor obstructions affect airflow patterns at ground level)

Warranty: Lifetime warranty on blades, hub and frame

12-Year service life limited warranty

3-Year parts and 1-Year labor

WINGLET & BLADE DESIGN

- **Winglet**

- Specifically designed for stationary rotary airfoil operating at slow speeds (patent-pending)
- Maximizes efficiency of airfoil by reducing induced drag
- Vortices are generated below the airfoil, directing turbulence away from the trailing blade
- Molded high density polyethylene (HDPE) for extreme durability

- **Blade**

- Patent-pending blade design optimizes airflow by increasing lift
- Vertical support increases rigidity and strength
- Up to 70% efficiency in reverse



iFAN™ Network Controls

iFAN allows customers to maximize the benefit of their HVLS fans by enabling centralized fan control. Having already revolutionized the HVLS industry with networked controls, iFAN takes things to the next level with specialized graphics to better simulate each customer's facility. iFAN's graphics allow customers to clearly pinpoint where their fans are located within the facility. iFAN's graphics also enhance each fan's visual appearance, aiding trouble shooting efforts, clarifying facility layout, and improving group fan control. iFAN is the next generation of fan control.

INTEGRATED: iFAN allows you to network up to 30 fans per standard configuration. Communication is established by "daisy chaining" the fans together via 4 wire conductor cables and connecting the last fan to the iFAN computer.

INTELLIGENT: iFAN software allows you to control fans individually, by zone and by facility. System functionality allows fans to be monitored and controlled by time settings, temperature settings or temperature variance. Interconnection with fire control system is also available.

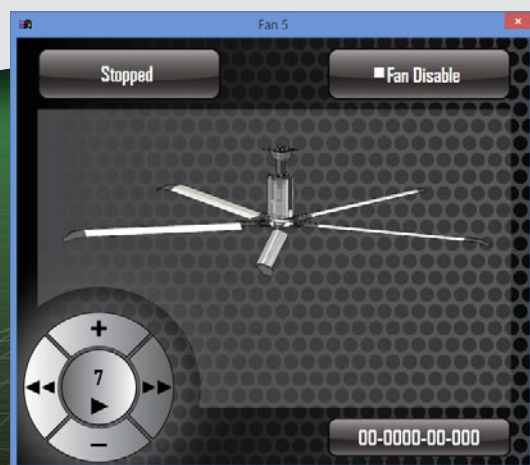
INSTANT: iFAN includes a touchscreen computer with custom graphic display of your facility's fan layout. Administrators can immediately and easily make operational adjustments. The system can also display a variety of performance statistics for each fan and archive the data for later reference or trend analysis.

INVALUABLE: iFAN ensures that operational and energy savings goals for your HVLS fans are realized. Fan speed cannot be randomly adjusted at the fan. Zone settings can address the unique operational and environmental conditions within separate areas of a facility. Key performance statistics can be measured. Real-time adjustments to your operation are now possible.

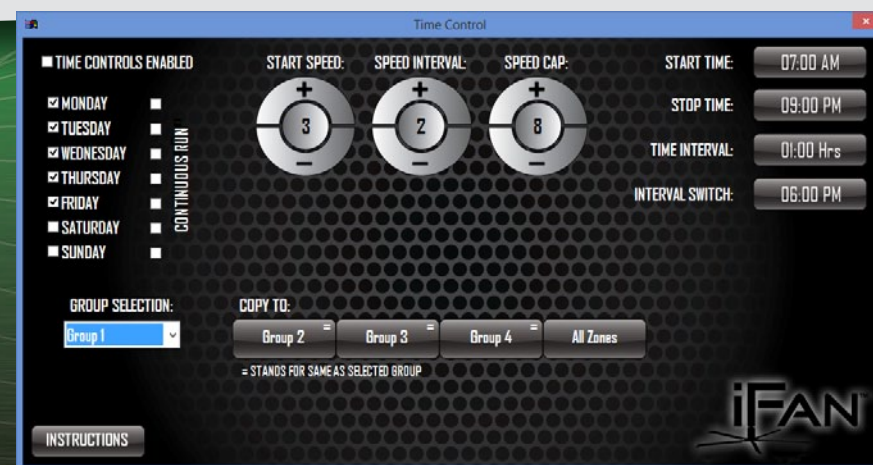


NETWORK CONTROL OPTIONS

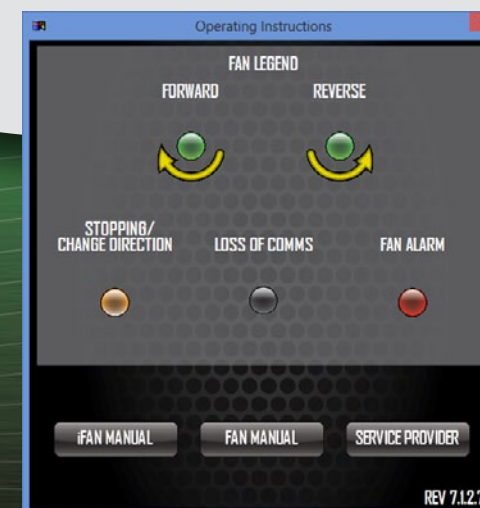
1. Fire Control System interface: Separate PLC control panel allows fans to be interconnected to a building fire control system.
2. Multiple Building Control: Fan control across multiple buildings from a central location.
3. Web View Option: Browser-enabled view and control of iFAN system.
4. Tablet Control: Control of networked fans with hand held wireless device.
5. Temperature Control: Speed control based upon ambient temperature.
6. External Wind Sensor: Fan shutdown based on wind speed (exterior applications only).
7. Exhaust Fan Integration: Allows control of building exhaust fans using iFAN control interface.
8. Additional Groups: Standard iFAN system includes up to four groups.



Dialog box for individual fan provides access to direction and speed settings for a specific fan.



Timer setting dialog box enables direction and speed for individual fan or zones to be set by time of day. A similar dialog box is available based upon temperature settings.



Electronic instructional manual is accessible via the navigation buttons.



iFAN can be connected to facility's fire control system to command "All Stop" in the event an alarm is triggered.

Turbo-ES™ Fan

How to move air efficiently in a unique situation where an HVLS fan cannot be installed?

Kelley understands that there are those rare applications where an HVLS cannot be installed, maybe due to low head room clearance or perhaps you only have one person at a work station. Allow us to introduce you to the continuous stream of air provided only by the Turbo-ES™ Fan.

The Turbo-ES™ Fan uses a powerful motor to direct fresh air down isles or other tight spaces dispersing harmful fumes or keeping an area fresher and insect free. It is also ideal for the loading dock, circulating fresh air inside trailers. This thermally protected fan prevents overheating and is easily maneuvered using the easy grip handle so you can aim Turbo-ES's continuous stream of air exactly where it's needed.

FEATURES

- Extra long 10' power cord with 3-prong 120V plug
- Protective grill for safety
- 3.0 Amp, 1/3 HP motor
- Circulates up to 1275 CFM
- Durable steel construction



OPTIONAL ACCESSORIES

- Dual articulating arm
- High impact LED Dock Light™

DON'T JUST OBSERVE IT, LIVE THE EXPERIENCE.

Kelley® is a world-renowned brand, best known as the pioneer of air-powered dock leveler technology, offering a comprehensive portfolio of loading dock and warehouse solutions. We are delighted to invite you to our 6,000 square foot showroom, known as the Entrematic Academy in Carrollton, Texas. The Entrematic Academy gives you a very special opportunity to get to know our products in person. Gain hands on experience and enjoy one-on-one interaction with our engineering and manufacturing team in this state-of-the-art facility.



CAN'T MAKE THE TRIP TO DALLAS? Let our Mobile Academy come to you. Our 53' completely enclosed and temperature-controlled trailer features over 25 full-sized, fully-functional dock equipment demo units. Call 1-877-778-DOCK (3625) to schedule an appointment and we'll drive our solutions straight to your door.



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A continuing research program is in effect at Entrematic. We reserve the right to incorporate product improvement at any time without prior notice.

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Form# KCB-FHVS-0414