Show Your \$ensible Side... Get Comfort and Save Energy with AirMotion[™] AltAir[™] Big Smart Fans

We make the Next Generation High Volume - Low Speed (HVLS) fans – we call them Big Smart Fans[™] – for industrial, agricultural,commercial and other large facilities to help reduce their HVAC energy bills while increasing comfort and productivity. Follow us on Twitter www.twitter.com/airmotionhvls



Smartest Features in the industry



ENERGY EFFICIENT ECO TECHNOLOGY

Helps you leave a smaller carbon footprint while making your facility more comfortable and productive

Provides manual to fully automatic fan control with on-board smart electronics



ROTATAIR™ COMPOSITE BLADES

Molded from durable and lightweight composite material for optimal performance



INNOVATIVE FAN SIZES

Do not interfere with the most common lighting and fire-suppression set-ups



VARIABLE PITCH TECHNOLOGY (VPT™)

Provides you *Adjustable Air Movement* with one fan and *Complete Facility Movement of air* with multiple fans

Some more points to Highlight

- Lightweight
- Low voltage controls
- Easy to install and operate
- Low profile design to fit into tighter spaces
- Desinged and built for long trouble-free life of operation
- Efficient and reliable use of VFDs (Variable Frequency Drives)
- Blades designed to provide equal effectiveness in moving air up or down



Increase comfort, productivity and energy savings while reducing impact on the environment

Energy efficiency is fundamental to the design of AirMotion big fans.

Air has significant mass, and once it starts moving – as inertia is overcome – the momentum of the moving air mass allows for a continuous air circulation requiring little effort to maintain it. AirMotion AltAir Big Smart Fans have been designed based on this simple principle to move a lot more air than high-speed standard industrial fans while using very little energy. Instead of larger motors and higher RPM, the combination of our proprietary Variable Pitch Technology (VPT™), Rotatair™ composite blades, and MultiMode Smart Control – all unparalleled features in the big fan industry – moves and mixes massive amounts of air to create a comfortable and healthier facility environment. This smart use of technology translates into more productivity while generating significant energy savings – both having a sizeable impact on the bottom line. The financial benefits with the reduced energy usage and corresponding greenhouse gas (GHG) emissions makes for responsible use of resources and a better environment now and for future generations.

Big fans made from Smart Ideas that do big(ger) things in big places. Learn what AirMotion's Big Smart Fans can do in your facility... AirMotion AltAir Big Smart Fans create a natural, non-disruptive breeze at your facility...

Page 4

Perfect solution to air movement challenges at your facility...

AirMotion big fans are the perfect solution to air movement challenges in large facilities with high HVAC energy bills. They move air up and down, and de-stratify uneven temperatures trapped in different levels and zones.

ENERGY EFFICIENCY AND SAVINGS

One AirMotion Big Smart Fan can replace up to 15 or more high-speed standard industrial fans – making significant energy savings; and their effectiveness over large areas, especially when used in *Complete Facility Movement* array, reduces wasted energy – means faster paybacks and higher ROI (please see chart at page 7).

COMFORT

Apart from saving energy, the primary function of AirMotion big fans is to provide comfort in a facility by cooling, heat de-stratification, and ventilation (they can also be used to supplement air conditioning systems) – more efficiently and effectively than other air movement solutions. Enhancing the comfort within a facility renders an increase in the level of worker and/or livestock productivity.

The primary function of AirMotion's AltAir Big Smart Fans is to provide a pleasing, comfortable facility environment while saving energy.

...and benefits are multiple

COOLING

AirMotion big fans provide a natural cooling effect of

6°F~8°F - or more - by creating a pleasing, nondisruptive breeze (such as can be felt by the seaside). Our experience has shown that people sometimes like high velocity air movement – with the high speed capability of our fans the user can blow more air if desired.

HEAT DE-STRATIFICATION



Most high-roof facilities with heaters installed at the roof level can experience 15°F or more difference in temperature from floor to roof in

colder seasons (as hot air always goes up). AirMotion big fans mix the trapped warmer air from roof level with colder air down at the floor level to maintain a more uniform temperature throughout the facility – reducing heater cycle time while eliminating heat loss from infiltration through the roof – helping save 20% or more in heating costs.

VENTILATION

AirMotion big fans mix incoming fresh air with the stale air inside to maintain a refreshing and healthier indoor environ-



ment reducing/eliminating the need for costly IAQ (Indoor Air Quality) solutions while also minimizing the volume of air that needs to be replaced (and corresponding loss of warm or cool air).

AC SUPPLEMEN

★+**=

AirMotion big fans are a very effective supplement to Air Conditioning They enable 2°5~8°5

tioning. They enable 3°F~8°F thermostat increases, with a

corresponding 3% - 5% energy savings per degree, by providing a natural cooling effect coupled with widespread air mixing. By creating the equivalent feeling of coolness from lower temperature settings, they also reduce the need for costly ducting and air conditioning tonnage (with correspondingly less financial and human resources needed to build, install, and maintain).

AirMotion AltAir Big Smart Fans mix and move a massive amounts of air very quietly...

OTHER BENEFITS

AirMotion big fans also **replace humid and noxious air** – reducing damage, waste and disease – to create a healthier atmosphere to breathe in. As a side benefit, they help keep birds and bugs away and eliminate all the damages that they cause.

Research has shown that people are more comfortable and productive



when HVLS fans are running. Management is happy with lower energy bills and a more pleasant work environment enhancing the atmosphere all around.

GOING GREEN

AirMotion big fans are one of the fastest, easiest,

and least expensive ways to go green. To further support that concept, for each fan purchased, AirMotion has 10 evergreen trees planted in a damaged US National Forest in the name of a customer under our Fans For Trees program.

Be part of our 'Fans For Trees' program

AirMotion Sciences introduced its 'Fans For Trees' program in October, 2007 to help its customers reduce their carbon footprint along with the fan's energy savings and resultant environmental benefits. Please contact us for more information.



AirMotion Big Smart Fans Provide Faster Payback and Higher ROI

BENEFITS	PAYBACK 10	YR COST SAVINGS
Cooling Alternative	< 3 Years	> \$ 125,000
Heat De-stratification	< 1 Year	> \$ 200,000
AC Alternative	< 1 Year	> \$ 400,000

• Estimates for a typical 100,000 sq ft facility.

Please contact us to learn more, and to evaluate the savings potential at your facility.



A Fan For All Seasons



SUMMER COOLING

By replacing up to 15 or more high-speed standard industrial fans AirMotion big fan systems provide all the breeze necessary for a cooling effect of 6°F~8°F - or more - making significant reduction in energy bills with happier, healthier, more productive employees in the warm months.

WINTER HEAT DE-STRATIFICATION

In the colder season, greater comfort may be achieved from running the fans at lower speeds and altered pitch (without creating a chilling breeze), including blowing air upwards, to bring trapped warm air from the roof down to floor level to mix and maintain a uniform temperature throughout (de-stratification of the heated air), while making significant energy savings due to reduced heater cycle time.



Packed with the Smartest Technologies to ensure complete and effective air movement throughout your facility

VARIABLE PITCH TECHNOLOGY (VPT™)

Our innovative Variable Pitch Technology lets you adjust the blade pitch 0°~20° up or down - to blow air in a columnar flow or conically disperse it for a broader reach (we call it *Adjustable Air Movement*). When multiple fans are arranged in an array, some may be adjusted to blow air upwards while others blow downwards, creating a complete wave-like movement of air within your facility (what we call *Complete Facility Movement of air*). ROTATAIR[™] COMPOSITE BLADES Another innovative and advanced feature is our Rotatair blades, which we have designed to ensure optimal performance and provide equal effectiveness in moving air up or down. Molded from durable and lightweight composite material they are capable of higher rotational speed (compared to other types of blades) with lower turbulence to work efficiently in the wind of other blades.





MULTIMODE SMART CONTROL

Our low voltage, simple but multifunctional Smart Controller provides you five modes of operation – Manual Mode • The user controls the fan

speed and blade pitch.

EcoMode • The fan is programmed to select the most energy efficient pitch for a given speed.

DeStrat Mode - The fan turns on and off automatically based on temperature differences between floor and roof level at user set speed, pitch, and direction (up/down).

AutoMode • The fan selects speed and pitch based on temperature differences, and turns on and off automatically. The user merely sets direction (up/down). External Input Mode • The fans can also be run by user specified external devices such as Thermostats and Timers.

INNOVATIVE FAN-SIZES

Available in 15 ft, 12 ft, and 9 ft diameters, AirMotion AltAir Big Smart Fans are capable to provide the air movement of much larger fans. And the innovative sizing allows them to operate within most commonly spaced fire suppression and lighting setups, keeping local fire marshals and insurance underwriters happy while avoiding counter-productive strobe lighting effects (please see page 13 to learn more on this).

ENERGY EFFICIENT ECO TECHNOLOGY

AirMotion big fans are engineered with energy efficiency as a fundamental design imperative to ensure significant energy savings, so you get increased comfort and productivity while leaving a smaller carbon footprint.

EASY INSTALLATION

Low profile design, simple mounting, low voltage wall box control unit, and standard 120V Single Phase make AirMotion big fans easy to install in most applications.

AirMotion AltAir Smart Controller

It's a simple but multi-functional low voltage wall box control unit that comes with 100 ft of wiring so it may easily be placed in any convenient location to operate the fan.



provides information on fan speed,

blade pitch, operating mode, temperature differences between the fan unit and the control unit, and other fan functions.

(C)

- (b) POWER ON/OFF BUTTON.
- (c) MODE SELECTION BUTTON selects any of the five operating modes.
- (d) SPEED CONTROL DIAL controls fan speed from 20~120 RPM.
- (e) PITCH SETTING DIAL sets the blade pitch from 0°~20° up or down.

(a)

(e)

By using Variable Pitch Technology[™] AirMotion Big Smart Fans provide you Adjustable Air Movement with one fan...



LOWER PITCH – DOWN

When set in Lower Pitch, the fan provides you a columnar air-flow

LOWER PITCH – UP

You can also get the columnar air-flow upward with the same degree of pitch set in reverse





HIGHER PITCH – DOWN

When set in Higher Pitch, the fan provides you a more conical air-flow for broader reach, better air mixing, and performance comparable to much larger HVLS fans

HIGHER PITCH – UP

You can also get the conical air-flow upward with the same degree of pitch set in reverse



...and <u>Complete Facility Movement of air</u> with multiple fans arranged in an array at your facility



With three or more fans arranged in an array you get an all-encompassing air movement and mixing throughout your facility by alternating air flow direction up and down – what we call **Complete Facility Movement of air**.

Innovative Fan Sizes

Peter Caruso, Founder & CEO, AirMotion Sciences, Inc. (former CEO of MacroAir Technologies), says "When I was building the other business, I had a lot of questions and concerns. One of the simple ones was the strobe effect created by the big fan blades spinning underneath lights. We stayed mostly silent on that issue, but I would venture a guess that one out of twenty people find the strobe effect annoying (I am one of those 20). Well, I know when I have something bothering me - it is a distraction, so my productivity goes down. I have to believe this plays a factor with others out there.

More importantly, I also have to believe it is just a matter of time before fire marshals and insurance underwriters get smart and get concerned about the big blades obstructing sprinkler heads. It is a potential safety hazard that hasn't yet been focused on much within the industry.

As a result, we have designed AirMotion AltAir Big Smart Fans to fit within common lighting and sprinkler head spacing. We move lots of air with our fans. Thanks to our unique VPT (Variable Pitch Technology), they don't necessarily need to be so big to effectively harness the laws of physics to create comfortable and productive environments while saving lots of energy. It is that simple."



Do More With Less...

A 15 ft AirMotion Big Smart Fan can provide up to 33% more CFM* than older generation 24 ft HVLS fans, and save more energy. Use AirMotion Big Smart Fans for Future Generations... AirMotion AltAir Big Smart Fans are designed to provide a complete and more effective air movement than most larger fans. Energy savings are significant, and with improvements in comfort and productivity, you get faster payback and higher return on investment than any other air movement solutions.

KEY SPECS 15 FT FAN		
NUMBER OF BLADES	6 ROTATAIR™ COMPOSITE BLADES	
MOTOR	ONE 1.5HP TEFC HIGH EFFICIENCY	
FAN SPEED	20 RPM (MIN) TO 120 RPM (MAX)	
BLADE PITCH	VARIABLE (VPT™) 0°~20° UP/DOWN	
CFM (CUBIC FEET PER MINUTE)	340,000 @ 90 RPM AND 20° PITCH (ACTUAL CFM DEPENDS ON THE SPEED AND PITCH OF OPERATION)	
APPROX. FAN WEIGHT	250 LBS. INCLUDING MOUNTING APPARATUS	
POWER SOURCES	120V SINGLE PHASE IS STANDARD (DESIGNED TO WORK WITH ALL POWER SOURCES)	
EFFECTIVE COVERAGE AREA	UP TO 20,000 SQ FT OR MORE (DEPENDING ON SPEED AND PITCH)	
RECOMMENDED SPACING	UP TO 90 FT OR MORE BETWEEN FANS (DEPENDING ON SPEED, PITCH, AND AIR MOVEMENT OBJECTIVES)	
MINIMUM HEIGHT	TOP OF UNIT 1 TO 3 FT BELOW ROOF LEVEL, BLADES SHOULD BE MINIMUM 10 FT ABOVE FLOOR	



Perfect for increased comfort and productivity in any applications you may have in mind...

The most typical applications of AirMotion big fans are -

WAREHOUSE & DISTRIBUTION

AirMotion big fans are perfect for energy savings, increased comfort and productivity, and reduced product spoilage in

warehouses and distribution centers. Our Variable

Pitch Technology (VPT[™]) for Adjustable Air Movement allows control over speed, direction, and reach of the air movement, providing flexibility for changing floor conditions and product storage.



MANUFACTURING & ASSEMBLY

AirMotion big fans are also perfect in large factories and workshops to provide energy savings, increased comfort and productivity, better IAQ/ventilation, and reduced employee turnover. VPT enables flexibility for different air movement requirements depending on the locations of workstations, machinery, and



shipping and receiving areas. Our engineers have designed the AltAir Big Smart Fans so that they don't cause electrical interference with sensitive electronic equipment while also ensuring that our fans do not create damaging stray currents.

COMMERCIAL

AirMotion big fans' quiet and unobtrusive operation fits perfectly in commercial places and other large facilities (like Airports, Hangers, Shopping Malls/Retail Outlets,

and other large facilities (like Airports, Hangers, Shopping Malls/Retail Outlets, Fitness Centers, Indoor Sports Arenas, Churches, Lobbies etc.), providing energy savings and comfort – which means increased

business. And the Energy Savings will help satisfy customer demands for 'green' companies.

AGRICULTURAL



AirMotion big fans are also very effective in facilities like Dairy, Barn/Ranch, Poultry and other operations, providing energy savings, human and animal comfort, productivity increases, IAQ/ventilation, reduced spoilage from

humidity and pests, and overall healthier environments, reducing the need for other solutions including pesticides, hormones, and other treatments not desired by consumers.



For typical cooling objectives we recommend one fan for up to 10,000 sq ft or more

Diagrams are for concept only. Please contact us for assessing your actual requirement, optimal fan location, and specific installation issues.



For heat de-stratification and general air mixing we recommend one fan for up to 20,000 sq ft or more as desired

AirMotion Big Smart Fans are one of the fastest, easiest, and least expensive ways for facilities to go green when compared with other technologies like wind power or solar energy.

Complete Safety

- 6 X 6" x 1/16" Blade Safety Straps
- 4 X 15 ft long 1/8" Guy Wires with Clamps
- 1 X 10 ft long 3/16" Safety Cable with Clamps .

Comprehensive Warranty

- Limited Three Year Warranty On Complete Fan
- Limited Lifetime Warranty On Blades and Hub
- Limited One Year Warranty On Repair and Labor



The Smartest Way to Go Green

AirMotion Sciences, Inc. • Nine Green Street Holliston MA 01746 USA T 508.429.4411 F 508.429.4401 Email info@airmotionsciences.com • www.airmotionsciences.com

Please consider our environment before printing this material.

© 2010 AirMotion Sciences, Inc. All rights reserved. Specifications are subject to change without notice as we constantly strive for improvement. All trademarks are the property of AirMotion Sciences, Inc. For further information about AirMotion[™] AltAir[™] Next Generation HVLS Fans please refer to our website.