
Upgrade Inefficient Air Handlers with FANWALL TECHNOLOGY®



GOVERNNAIR®
a Nortek Air Solutions Brand

Make the Impossible – *Possible*



Don't let replacement fan size prevent you from upgrading your air system. FANWALL cells fit through standard width doors and can be stacked in any configuration to fill the air tunnel. At the right is a timeline from an actual retrofit job which converted a single fan to a four-cube FANWALL array. The time shown not only includes the fan retrofit work, but also changing the unit from a blow-thru to a draw-thru arrangement.

All-Around Performance

Continuous and consistent airflow is essential to virtually every facility, making under-performing or unreliable fans simply unacceptable. In addition to obvious reliability concerns, these inefficient fans can be a building's biggest energy consumer. Given today's tumultuous economy and the increasing cause for environmental concern, designers must select an HVAC fan which will not only provide the necessary reliability, but also optimum efficiency and environmental benefits. The over half-billion dollars of FANWALL arrays in operation today proves that FANWALL TECHNOLOGY® from Nortek Air Solutions delivers on all three counts.



Anatomy of FANWALL TECHNOLOGY

A FANWALL® system is an array of smaller, quieter, and more energy-efficient fans, typically driven with a variable speed drive, and designed to meet the specific airflow requirements in an air handler or built-up fan system. This allows designers to select the optimum fan wheel geometry and motor horsepower for each specific application, resulting in smaller

fans and motors running closer to their peak efficiencies. The energy savings associated with this level of optimization are truly unparalleled. The redundancy of the fan components adds to the unit's reliability. If one motor fails, only that portion of the airflow is lost, unlike single-fan air handlers. FANWALL TECHNOLOGY is ideal for fan retrofit applications as each FANWALL cell is easily moved through a standard width door or elevator, and stacked like building blocks to fit the profile of the air tunnel.

Reliability Through Redundancy

FANWALL provides superior reliability as a result of its built-in redundancy. If one fan fails, only that portion of the airflow is lost, unlike single fan systems where the entire air handler goes offline. Moreover, the loss of airflow from one fan can be offset by increasing the speed of the remaining fans.

Small Size Makes Upgrades Possible

A FANWALL array requires a maximum airway length of 36 inches regardless of its airflow or pressure requirements, compared to three or four times that amount for traditional fan systems. Each cell can fit through a standard width door and may be stacked in whatever geometry to match the air tunnel size.



Rapid Fan Retrofit For Air Handlers



Friday 3:15 p.m.

4:00 p.m.

4:37 p.m.

Saturday 10:01 a.m.

6:33 p.m.

Energy Savings

FANWALL systems provide significant energy savings through a variety of means. Smaller motor HP increments and partial width fan wheels eliminate the need for excessive motor oversizing. In addition, FANWALL motors run closer to their peak efficiencies at part-load conditions than larger, single-motor fans. Furthermore, FANWALL arrays virtually eliminate the need for sound traps and produce less system effects than single fans. This lowers static pressure loss and reduces HP needs. Finally, FANWALL arrays offer the option to shut off part of the array during turn-down periods while the remaining fans continue to operate near full load—meaning more efficient operation and greater energy savings.



Lower Sound Levels and Vibration

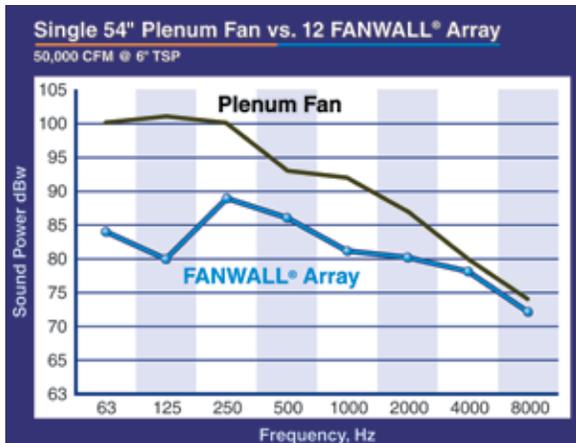
FANWALL arrays of unhooded fans operating at higher speeds produce less low-frequency sound than a typical single-fan arrangement. A Coplanar Silencer® comes

standard in every FANWALL cube, lowering sound levels even further. This inherent sound attenuation virtually eliminates the need for expensive acoustical attenuation materials and devices, making FANWALL TECHNOLOGY ideal for applications with strict sound level requirements.

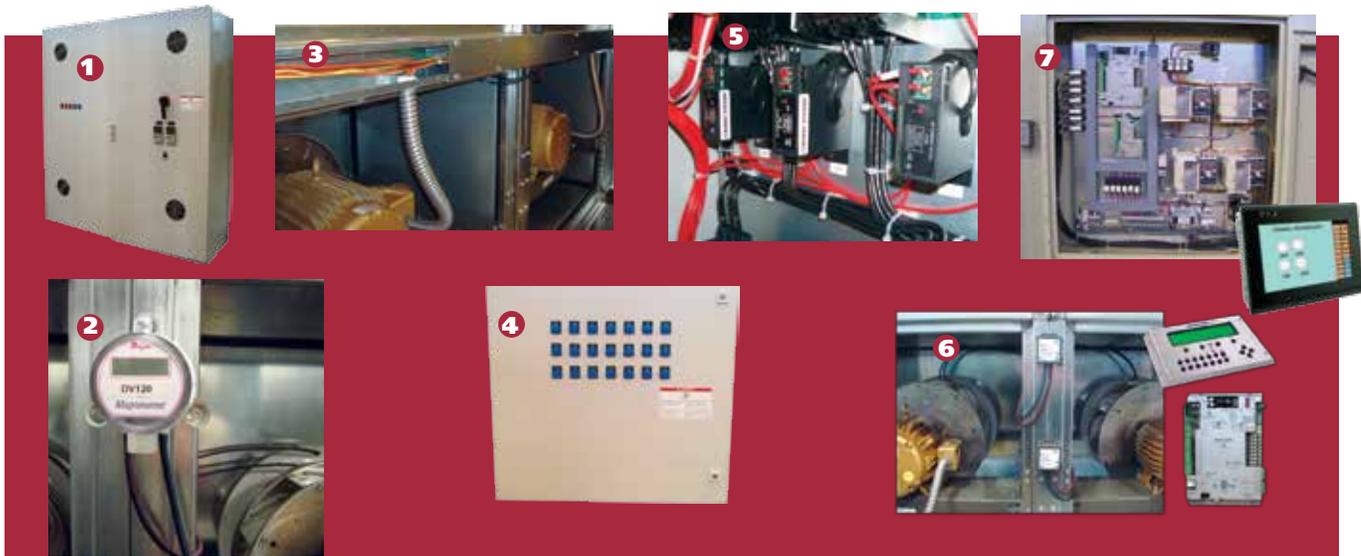
Less Maintenance

FANWALL arrays are made of direct drive, arrangement four fans and utilize maintenance-free bearings, so there are no belts to replace or bearings to grease. The small size of the motors and fans allow them to be easily changed out without expensive rigging equipment.

To learn more, please contact your local Governair Representative or visit www.governair.com.



Electrical Options for FANWALL® Systems



1 Motor Overload Panel

A factory motor overload panel (MOP) is provided with each retrofit project. The MOP is provided with all necessary motor overload devices.

2 Pressure Transmitter with LCD Display

A single Dwyer differential pressure transmitter is provided as a standard per fan array. The transmitter monitors the fan cone port pressure to determine CFM. The output is shown on an LCD display. The display can be configured to display pressure for a Building Management System with an available 4-20 mA output or display CFM without a 4-20 mA output.

Auxiliary Contacts

Auxiliary contacts are provided as a standard on all MOPs. Auxiliary contacts can be used to indicate if a motor overload protector is turned off or tripped.

3 Raceway

Wiring troughs can be shipped loose to provide a raceway for motor wiring. A wiring trough upgrade adds a clean look to any retrofit project.

4 Run/Fault Lights on MOP

Run/fault lights located on the exterior of the MOP are an upgrade that helps determine which fans are in operation.

5 Current Switches

Current switches can be added to the MOP and enable the controls to determine fan status by providing run indication, motor fault, etc.

6 Individual Fan Cell Airflow Monitoring

If airflow monitoring is desired on each fan cell, a differential pressure transmitter is provided for each cell and a signal is sent directly to a Direct Digital Controller (DDC). The controller is easily accessed and managed using the BACview keypad with a backlit LCD display.

7 System Optimization Control

The ultimate package for any FANWALL retrofit system includes Governair's DDC System Optimization Control with backlit LCD display. This system is ideal for any VAV system as it alters the number of active fans and their speed to optimize operating efficiency while maintaining stability. A touchscreen HMI is also available with this option. Please see Governair's brochure to learn more about our DDC System Optimization Control.

Your local Governair Representative can help you determine the electrical and control options for your application.

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