



FANWALL TECHNOLOGY®

The Ideal Solution For Fan Retrofits



**FANWALL
TECHNOLOGY®**

FANWALL TECHNOLOGY®—Retrofit Solutions That Work

A FANWALL system can be the most cost effective solution for upgrading an end-of-life air handler, while delivering energy savings that can be 40% or more.



The Right Choice For Your Application

Using a FANWALL® system to replace fans in existing air handlers that are reaching the end of their useful life can be the most cost effective solution for avoiding the cost and business disruption of an air handler failure. The resulting energy savings can be 40% or more.

Retrofits using a FANWALL system have occurred in applications ranging from offices, education and hospitality facilities, to facilities with critical requirements such as hospitals, data centers and pharmaceutical manufacturing.

FANWALL TECHNOLOGY is available only from Nortek Air Solutions brands, including: Governair®, HUNTAIR®, Mammoth®, Temtrol®, Venmar CES®, Ventrol®, Webco™, and Eaton-Williams®.

GOVERN AIR® **HUNTAIR®**

Mammoth® **Temtrol®**

VENMARCES **Ventrol®**

Eaton-Williams® **WEBCO™**

Removing Barriers to Achieve Peak System Performance

In many cases, access limitations are a barrier to a fan or air handler replacement because it cannot be accomplished without the time and expense of a major tear-out and reconstruction project. A FANWALL system can minimize this and other barriers.

- An air handler cabinet can retain its integrity well beyond fans, coils and other components, allowing it to be retained with a new FANWALL system.
- The modular design of a FANWALL system allows individual cubes to be navigated through a standard 3-foot door and assembled inside the existing air handler cabinet.
- There is no need to have a crane on site as is often the case with larger conventional fans.
- The performance of the new system can be upgraded to better match actual capacity and airflow requirements.
- Ancillary components such as sound attenuators and air blenders that created static pressure penalties in the old system can be removed.
- Design flaws and other maintenance concerns—such as component access issues and corrosion—can also be addressed, essentially resulting in a new, more efficient air handler in an old skin.
- **All of this often can occur over a weekend or during unoccupied time frames to minimize downtime or disruption of normal business.**

Get The FANWALL® Advantage

Nortek Air Solutions invented FANWALL TECHNOLOGY and is the leader in ongoing innovations to advance fan array solutions. Below are unique, industry-leading innovations.



System Optimization Controls: Automatically model and implement the most efficient system configuration to meet airflow requirements by varying the speed and number of enabled fans and motors at any given point in the operating range (patent pending).



Near Zero System Effect Backdraft Damper: FBD backdraft damper prevents re-circulation in idled fans and motors with little or no effect on airflow, very low leakage, and with a positive acoustic impact (patent pending).



Matched Horsepower Motors: 17 more horsepower increments to choose from to closely match required brake horsepower and reduce connected load, wire sizing, transformer and switchgear costs for the building.

The Original and Best Fan Array Solution

NortekAir Solutions invented FANWALL TECHNOLOGY® and is the leader in ongoing innovations to advance fan array solutions. Since 2003, nearly 200,000 FANWALL cubes have been installed and are successfully moving air throughout the world. The degree of experience, expertise, and sole source responsibility in the design, manufacture, and application of FANWALL systems is unmatched in the industry.

Dramatically Smaller Footprint and Modular Design

- Individual cubes can be navigated into tight spaces to avoid major demolition and reconstruction, and provide tremendous flexibility in staging projects with significant access barriers.

Low Vibration and Sound

- The patented Coplanar Silencer® that attenuates sound within each cube, as well as careful attention to balance in the design and construction of FANWALL systems, can eliminate the need for sound attenuators and their associated static pressure penalty, and costly concrete inertia pads.

Optimized Performance and Efficiency

- FANWALL systems create a uniform piston of air proportionally targeted at each section of the coil to enhance heat transfer and promote more even filter loading. Fans are AMCA certified for performance.
- No belts, sheaves, or bearings that require routine maintenance and degrade performance over time.
- Can eliminate ancillary components such as sound attenuators that create a static pressure penalty.
- System optimization controls allow on/off control of individual fan cubes to closely match requirements in variable airflow applications with the optimum number of fans and motors operating at peak efficiency.

Redundancy

- A fan or motor failure in a FANWALL system creates a routine maintenance concern versus a critical path failure because the remaining operating fans can compensate to maintain airflow and static pressure.
- The configurability of a FANWALL system—including the tremendous number of fan and motor sizes and combinations—allows designers to achieve true N+1 redundancy at the lowest connected load to avoid the added motor, electrical service and energy costs of oversizing motors.

Easy Maintenance and Service

- Smaller components are easier to handle and more readily available if replacement is required.
- No belts, sheaves or bearings, and permanently lubricated motors promote minimal routine maintenance.

FANWALL® Systems—Project Examples

The list of applications served by FANWALL systems continues to grow to include virtually any facility desiring to upgrade existing systems with access barriers and to provide redundancy to avoid a critical system failure.



Sutter-Roseville Medical Center, Roseville, CA

Project Scope: Replace a single 139,000 cfm vaneaxial fan operating at 6.9 inches of total static pressure and serving all patient rooms and some surgical suites. Failure of either the fan or motor would shut down the medical center—potentially for several weeks.

Challenges: Existing fan was part of a built-up penthouse air handler. Dismantling the air handler and replacing it could take several weeks. No physical space for a redundant fan and motor system of a similar type.

Key Benefits of the new FANWALL System: The modular design of the FANWALL system allowed contractors to install and test it while the vaneaxial fan remained in service, minimizing downtime. Other key benefits include redundancy, easier maintenance and service due to significantly smaller components, and surplus capacity to leave room for expansion. All of this occurred in the same footprint of the original penthouse. Estimated energy savings of 43%.



The Pyramid, San Francisco, CA

Project Scope: Replace two 101,000 cfm DWDI fan systems and coils, and build new high pressure plenums in a 5th floor mechanical room. Systems serve floors 1 to 18 in this LEED® Gold certified facility.

Challenges: Significant risk of tenant impact—some of whom are located on the same floor along with a server room. Sound and vibration also major concerns. Access space for bringing in the new fan system and staging project tasks was limited.

Key Benefits of the new FANWALL Systems: The modular design of the new FANWALL systems allowed individual cubes to be navigated through the building and assembled in place without major structural demolition or cranes. The project was able to be completed during weekends with very little downtime to minimize tenant impact. Sound and vibration issues with the old systems were eliminated without taking added measures for the new systems. The redundancy provided by the FANWALL systems will help ensure operation without interruption. The project supported the owner's desire for continued energy improvements—the new systems use 60 to 70 amps less while delivering the same cfm and static pressure.

Contact your local Nortek Air Solutions representative for more information about getting the FANWALL® advantage for your next new construction or retrofit project. To locate your Representative, visit www.nortekair.com.

Nortek Air Solutions, LLC, is a leader in innovative custom and engineered HVAC solutions for commercial, industrial and critical environments through our brands of Governair, Huntair, Mammoth, Temtrol, Venmar CES, Ventrol and Webco. Nortek Air Solutions is a subsidiary of Nortek, Inc., a global diversified company whose many market leading brands deliver broad capabilities and a wide array of innovative, technology-driven products and solutions for lifestyle improvements at home and at work.

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