FANWALL *TECHNOLOGY*®

Reengineering How You Move Air℠

CES™ group INC.
Customization Is Our Standard™

A New *Quieter* Fan to Reduce Your Total Cost of Ownership

Understanding Your Business

We understand that air handlers are critical components in a building's air conditioning system, and that the fan technology selected for the air handler plays an enormous role in the unit performance: energy usage, sound level, reliability, and footprint. To advance the available technologies that address these critical performance factors, the CES Group invented FANWALL TECHNOLOGY®.

Breaking up the airflow into a fan array allows designers to optimize fan wheel geometry and motor horsepower. The result is smaller fans and motors, running closer to their peak efficiencies and reducing energy costs.

The companies affiliated with the CES Group™ are some of the world's leading custom engineered air conditioning manufacturers, offering a full range of products from ½ to 2,000+ tons and 200 to 400,000+ cfm. Why settle for a packaged answer when the CES Group can provide innovative, cost effective, custom engineered solutions for today's most challenging HVAC applications?

The CES Group, Inc., as a wholly owned subsidiary of Nortek, Inc., is affiliated with the following companies: • CLEANPAK International, Inc. • Eaton Williams Group, Ltd. • Governair Corporation • HUNTAIR, Inc. • Mammoth, Inc. • Mammoth China, Ltd. • Temtrol, Inc. • Venmar CES, Inc.• Ventrol Air Handling Systems, Inc. • WEBCO, Inc. Each company is a separate and distinct legal entity.

FANWALL TECHNOLOGY

A FANWALL® is a highly engineered array of high efficiency airfoil plenum fans. Instead of one or two large fans, now there is an array of smaller, quieter, and more energy efficient fans delivering the required airflow.

"Smaller fans and motors operate closer to their peak efficiencies, resulting in more energy efficient operation and reduced energy costs."

Conventional air handler fan section

FANWALL TECHNOLOGY fan array

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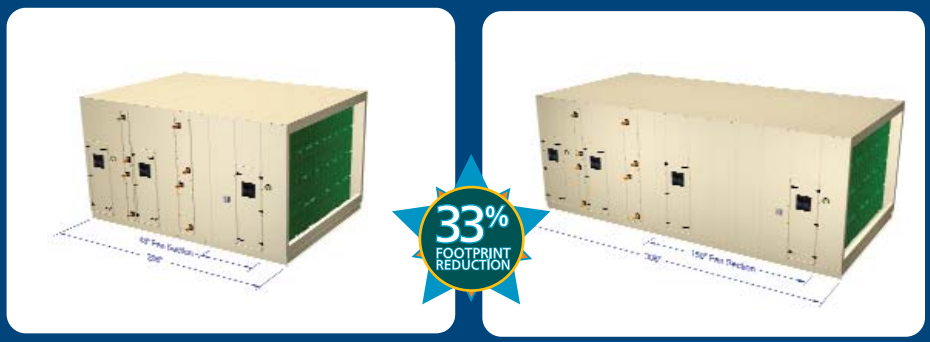
Powered by
FANWALL TECHNOLOGY®
by HUNTAIR®
a CES Group™ Company

Free Up Valuable *Real Estate* with FANWALL TECHNOLOGY

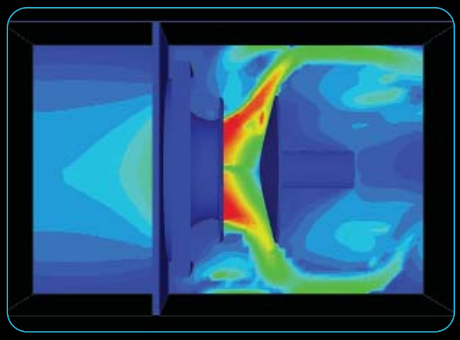
Benefits of FANWALL TECHNOLOGY®

- ***Small fan sections –*** a FANWALL® array of any capacity or pressure requires a maximum airway length of 36 inches, compared to three or four times that amount for traditional fan systems.
- ***Greater flexibility in unit dimensions –*** designers can incorporate lower profile units if there are height restrictions.
- ***Higher efficiency and lower connected load –*** fans and motors are sized for optimum efficiency, which often results in a lower connected electrical load and a downsizing of electrical service.
- ***Reliability –*** redundancy of fan components adds to the unit's reliability. If one fan fails, only that portion of the airflow is lost, unlike single fan systems in which the entire air handler goes offline. Moreover, the loss of airflow from one fan can be offset by increasing the speed on the remaining fans.
- ***Lower sound levels at critical frequencies –*** FANWALL TECHNOLOGY is based on the use of small, high efficiency fans running at higher speeds than traditional fans. Unhoused fans operating at higher speeds produce less low frequency sound. You can reduce and/or eliminate expensive acoustical attenuation materials and devices as a result.
- ***Lower total cost –*** a FANWALL array requires less cabinetry, less fan and motor support framework, and no sophisticated spring isolation system.

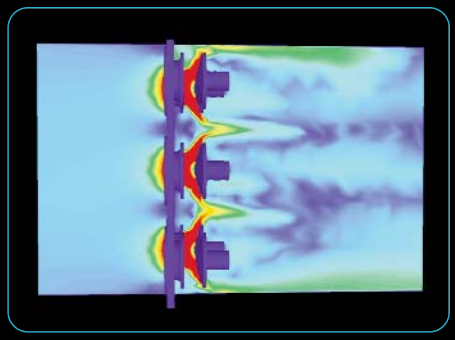


FANWALL TECHNOLOGY reduces the AHU footprint, saving valuable real estate.

Smaller fans running at higher speeds reduce sound levels and attenuation costs. They also promote easier maintenance.



Red color denotes air turbulence in a conventional plenum fan, which leads to higher sound levels and energy usage.

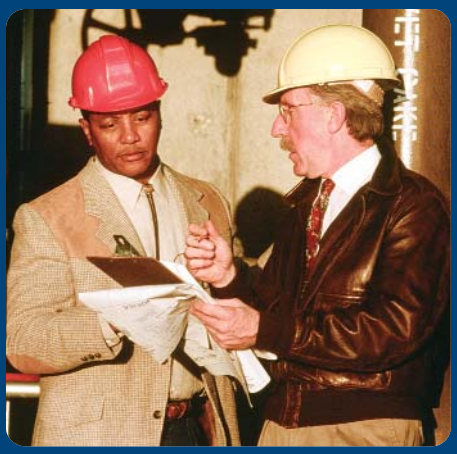


FANWALL TECHNOLOGY smaller fans create less turbulence downstream of the fan array, which lowers sound levels and reduces cabinet space.

FANWALL is often the answer for upgrading old fans and/or air-handling units without knocking down walls or involving cranes. Modules fit through standard width doorways.

Built in *Reliability* Reduces Downtime

CES Group™ *Understands* Your Business



Creating the right indoor environment is a challenge we understand. That is why our approach in the industry is to provide custom engineered solutions to meet your needs. You no longer have to settle for a "catalog" solution—CES Group provides innovative, cost effective solutions for today's most challenging HVAC applications.

Let your CES Group representative show you how FANWALL TECHNOLOGY® may be the best solution for your facility needs. CES Group's factory trained representatives have the expertise to help make your HVAC system a reliable and efficient part of your facility.

Ask your CES Group representative about our full line of environmental solutions:

- Regenerative desiccant dehumidification systems
- Energy recovery ventilation with plate, wheel, and heat pipe technologies
- integrated Prefabricated Equipment Centers (iPEC™)
- Air cooled, water cooled, or evaporative cooled condenser chillers
- Chilled water or DX cooling
- Factory packaged rooftop systems
- Pre piped chilled water coils complete with pump and control package
- Preengineered, factory mounted DDC controls and generic protocol interfaces
- Factory installed refrigerant piping
- Screw, scroll, and centrifugal compressor designs for tight capacity control
- Housed, plenum, FANWALL TECHNOLOGY®, vaneaxial, and prop fans
- Gas fired heating—direct or indirect
- Filters, sound attenuators and humidifiers
- Boiler with pump packages with expansion tanks
- Cleanroom systems—AHUs, ceiling grids, and laminar flow hoods and booths
- Custom heating and cooling coils
- And much more…

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