



## **Air Handling Units**

Ranging from 15 to 2,000+ tons  
and 500 to 400,000+ CFM



# THE NORTEK AIR SOLUTIONS AIR HANDLER ADVANTAGE

Nortek Air Solutions is the largest custom HVAC manufacturer in North America, with a combined total of more than 350 years of experience, five strategically located manufacturing facilities which encompass over 2 million square feet of clean space and 180 sales representative offices. Our brands serve customers in the commercial, institutional and industrial markets with a full range offering of small, mid and large size air handling products ranging from 15 to 2,000+ tons and 500 to 400,000+ CFM.



## Air Handling Solutions for Better Building Environments

Specialized and highly customizable indoor/outdoor air handler units meet the demands of any application through unmatched design scalability, flexibility and versatility.

These custom air handlers provide:

- Quiet, energy-efficient operation – Noise reduction design options combined with real cost-savings technology.
- High-quality construction options – Specialized materials reduce design time, lower installation labor and material costs, accelerate timeline construction and provide customizable configurations.
- Innovative technology – Inventive and unique designs contribute to systems that address humidity, energy efficiency, indoor air quality, acoustics, and special physical requirements.
- Performance-leading flexibility – Design and construction features that adapt to any situation, requirement and environment.
- Lower cost of ownership – Cost-effective, energy efficient custom-built systems that significantly reduce total cost of ownership.



## Ideal for new Construction, Retrofits, and Replacements

Properly designed commercial air handlers reduce the costs associated with new construction, retrofit and replacement projects by incorporating unique capabilities to every situation.

- Built-in redundancy – Multiple levels of superior redundancy provide added assurance against interruptions to normal operations.
- Energy recovery – Efficient recovery systems that reclaim up to 80% of waste heat that lowers energy costs.
- “Free Cooling” solutions – Energy-efficient outside air minimizes or eliminates the need for mechanical cooling.
- Configurations and components – Flexible configurations and designs match footprint requirements that accommodate more efficient systems.
- Lower static pressure – Less uniform airflow profile reduces static pressure drop due to turbulence and system effects.
- Lowest electrical requirements – Minimal electrical connection loads and low fan horsepower provide a significant advantage in terms of energy savings.



# FEATURES AND BENEFITS



## **INTEGRATED FRAME WITH MODULAR DESIGN**

The most cabinet configurations available in the industry.

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## **STURDY, NON-SLIP FLOORING**

Several options of flooring that provide maximum safety regardless of the environment.

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## **FANWALL TECHNOLOGY® WITH INHERENT FAN REDUNDANCY**

A fully integrated and engineered system of state-of-the-art fans, motors, coils, controls, and accessories that can be easily combined to match new construction and retrofit application requirements.



# FEATURES AND BENEFITS



## **NEAR ZERO SYSTEM EFFECT BACKDRAFT DAMPER**

Isolates the airflow through any individual fan cell by sealing the fan off when it is taken out of operation.

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## **POWDER/GLOSS COATED INTERIOR AND EXTERIOR OPTIONS**

Available in different millimeter thicknesses to withstand extreme environmental conditions.

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## **POLYURETHANE FOAM INSULATED FLOORING**

Provided beneath drain pan filling all voids and eliminating any under pan condensation.

# FANWALL TECHNOLOGY®



One of the most significant advances in airflow management – FANWALL TECHNOLOGY® — is available exclusively from Nortek Air Solutions. It is an integrated fan array solution for air handlers that creates a fully integrated and engineered system of state-of-the-art fans, motors, coils, controls and accessories for new construction and retrofit application requirements.

## Innovative features include:

- Ultra-high efficiency PM Motors
- Near Zero System Effect Backdraft Dampers
- System Optimization Controls
- Variable Frequency Drives (VFD)
- Active Noise Control
- Coplanar Silencer®
- Sound Performance
- Acoustics and Efficiency
- Fans come in 6 sizes from 12 – 22 inches
- Multi-drive option for additional redundancy
- Advanced polymer wheel / ECMi motor offering



Utilizing a modular design, FANWALL arrays accommodate a wider range of air handler aspect ratios with unmatched design flexibility for indoor/outdoor applications. This results in a reduced footprint by as much as 33%; leading to more interior space for other uses.



# ADVANCED FAN DESIGN

Each air handler design features plenum fans that consist of both aluminum and polymer construction to efficiently meet system performance or application requirements. The fans are available in multiple sizes, from 12 to 22 inches, to match performance requirements and optimize operation efficiency. Fan performance is AMCA Certified™.

The fans feature advanced polymer wheel construction with an aerodynamic blade shape, shroud and cone reduce sound levels along with a choice of motors: induction, Permanent Magnetic (PM) and ECMI. Their design includes dampening materials that reduce sound tones from the impeller and motor, resulting in typical sound reduction on inlet and discharge. Utilization of lower connected horsepower often results in smaller electrical switch gear and smaller standby generator(s) while adding to redundancy.



# THERMAL BREAK OPTIONS

Air handler units are only as good as the frame that contains them. For the frame to be effective, it must serve a variety of functions other than design support and structural integrity.

Several thermal break technologies are employed to prevent sweating or frosting on the exterior of your air handler, including:

- Modified Thermal Break – Fiberglass insulation or polyurethane injected foam with gasketing that creates separation of different temperatures, such as cold outside air and warm equipment room air.
- No-Through-Metal Thermal Break
  - Solid, polyblock with Polyurethane injected foam to separate the internal liner of the cabinet from the external liner of the cabinet, thereby eliminating thermal bridging.
  - Extruded aluminum with a foam wall or polyblock design with foam filled walls for no path of continuous metal-to-metal conduction from the interior to the exterior of the unit either through the roof, walls or base.



# UNMATCHED CABINET CONSTRUCTION



Cabinets feature a spray foam base with either fiberglass or foam insulated walls. Welded frame (WF), integrated frame (ITF) and panelized frame construction options are available.

Like its framing, the cabinets provide thermal break capabilities that minimize and eliminate any instances of thermal bridging including thermally broken exterior panels, center partition, roof and base structure to maximize heat transfer and minimize the possibility of condensation on interior or exterior surfaces.

Double wall construction reduces vibration and allows high static pressure operation. Extruded aluminum and polyblock are offered as no-through-metal thermal break design options. Door frames and handles include thermal break capabilities, and for air handles that have windows, the windows feature thermal tempered glass. Each cabinet comes with standard features:

- Complete environmental sealing
- Drain pans
- Non-slip flooring and grates





# FULL LINE OF HIGH STANDARD COILS

Coils are crucial to the overall operation and efficiency of an air handler unit and need to be made of the highest-quality materials, manufactured under strict quality control standard and designed for long life and top performance.

Nortek Air Solutions provides coils that include variable casing dimensions, fin spacing, copper tube thickness, and a variety of casing and fin materials, including galvanized and stainless steel casings. Protective coatings and treatments are available to extend the service life of coils installed in corrosive atmospheres. The coil components (fins, tubes, headers and casing) are completely coated with several different coating options.

Nortek Air Solutions offers the following coil configurations:

- Hot and cold water
- Steam
- Booster
- Direct Expansion (DX)
- Condenser replacement
- AHRI 410 Coil Certification

## CONTROL SYSTEMS FOR EACH SITUATION

System optimization controls are available with all products. The control systems are integrated into existing systems or standalone, thereby resulting in less electrical switch gear to install and coordinate. Control panels can be unit or remote mounted.



# END-TO-END TESTING FOR UNMATCHED RELIABILITY



Years of research and development by experts in the field, along with personal engineering experience, has resulted in the creation of accredited research labs and testing facilities. A dedicated commitment to the most innovative, high-quality, reliable HVAC systems on the market has resulted in lab personnel garnering the highest reputation in the industry; from customers and consultants alike.

Comprehensive testing standards include sound, acoustical, leak, airflow (discharge, inlet), coil and thermal performance.

## COMPLIANCE TO UNIQUE CERTIFICATIONS

Custom air handlers can comply to certifications applicable to each regulation:

- ETL and AMCA standards
- IBC or OSHPD seismic pre-approval
- Miami-Dade County, Florida Product Control
- AHRI Coil Certification
- AHRI 1060 Energy Recovery Certification

## COMMITMENT TO SUPERIOR PERFORMANCE

We are driven to help you create the right experience with our solutions, to provide dependable products tailored to meet your specific needs, and to collaborate with you in an easy-to-do-business-with manner. We want to be your single-source provider of custom HVAC solutions. And we aim to earn your business through our performance. Find your local Nortek Air Solutions Representative by visiting [www.nortekair.com](http://www.nortekair.com).

# INDUSTRY-LEADING CUSTOM AIR HANDLER BRANDS



Nortek Air Solutions Huntair provides innovative, custom air handler solutions that deliver the performance needed for mission-critical and extremely sensitive applications. Huntair custom air handlers incorporate a proven design that affords the ultimate flexibility in meeting the requirements of commercial HVAC systems.

- Specializes in:
- 500 to 400,000+ CFM
- Custom electrical enclosures
- 2" to 4" cabinet construction
- Quality-focused manufacturing process
- Powder coating
- System optimization controls
- Indoor and outdoor construction
- Extreme condition tolerance
- Active noise control
- FANWALL® w/ backdraft dampers
- FANWALL® retrofit solutions



Nortek Air Solutions Governair/Temtrol delivers custom commercial air handlers that feature the highest quality and best value for commercial HVAC applications. Featuring a product offering that ranges from the simplest units to the most complex systems, Governair/Temtrol provides custom air handling units specifically designed to meet the exact needs of every HVAC application requirement through Innovation and reliability.

- Specializes in:
- 500 to 400,000+ CFM
- Complete custom electrical packages
- Custom piping capability
- Quality-focused manufacturing process
- Custom frames & bases
- Advanced coating systems
- Specialty fans & coils
- Custom internal construction options
- Full custom DDC controls
- FANWALL® w/ backdraft dampers
- FANWALL® retrofit solutions



Nortek Air Solutions Ventrol produces custom-designed commercial air handlers that implement one-of-a-kind features that deliver solutions for retrofit and new construction applications. An in-depth assessment of project requirements enables Ventrol to deliver innovative designs that are engineered to meet the specific demands of any application.

- Specializes in:
- 500 to 300,000+ CFM
- Flexible packaging options
- Design flexibility
- Quality-focused manufacturing process
- Energy recovery
- Custom configurations
- FANWALL® w/ backdraft dampers
- FANWALL® retrofit solutions
- Extreme condition tolerance
- Innovative insulation and thermal break technologies



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