



## Carrier Custom Air-Handling Solutions



2,000 to 300,000+ CFM



Healthcare Facilities  
& Pharmaceuticals



Industrial & Specialty Applications



Schools & Universities



Office Buildings & Commercial Spaces

## Carrier Custom Air-Handling Units Quiet, Efficient, Reliable, Durable

Turn to the experts with over 40 years of experience in providing custom air-handling solutions to the heating, ventilating and air-conditioning industry. Our goal is to be our customers' first choice in custom air-conditioning, heating and refrigeration solutions everywhere in the world. We want to make the world a better place to live by creating comfortable, productive and healthy environments. We are a solutions company, committed to research and development in order to provide high quality energy efficient technologies to our clients.

### DESIGN FLEXIBILITY

Carrier Custom air-handling units (AHUs) are the perfect solution for custom applications with volumetric flow rates ranging from 2,000 to over 300,000 CFM. Carrier Custom AHUs are designed using proven structural principles and leading edge manufacturing technologies.

With dimensions that can be manipulated in one inch increments, Carrier Custom AHUs can be designed to fit virtually anywhere. Carrier has a full selection of filters, fans, heat exchangers, heating, cooling and humidification options. Units can be provided as a single piece, in multiple modules or entirely knocked down for complete on-site assembly.

### APPLICATION SPECIFIC FEATURES

#### Data Centers

Compact vertical designs reduce the footprint and allow for easier serviceability of each AHU. Available filtration and humidification options keep space conditions clean and static free.

#### Healthcare Facilities

High efficiency (HEPA and ULPA) particulate filtration, Agion® antimicrobial coated inner liners, UV light technology, "free cooling" and energy efficient unit design provide the ideal and economical air-conditioning system for the many demanding requirements of healthcare institutions.

#### Food and Drug Administration and Pharmaceutical Design

Wipe-down and wash-down units with smooth aluminum or stainless steel inner liners and fully drainable floors provide clean precision-controlled supply air.

#### Airports and Museums

Outdoor air particulate filtration, gas phase filtration and energy recovery provide safe cost-effective indoor air quality (IAQ) space conditioning.

#### Schools and Universities

Ultra-quiet 100 percent outdoor air systems with enthalpy wheel, heat pipe and fixed plate energy recovery technologies to provide the ideal learning environment for students and teachers.

#### Construction

Built for performance and durability, units are constructed from ASTM G-90 galvanized steel, but are also available in aluminum and stainless steel suitable for even the most challenging environments. All panels and bases are designed to resist deflection or bowing. Cabinets are designed for minimum deflection at the highest



possible operating pressures and are also available with thermal break construction. The casing can withstand static pressures up to 15 inch water gauge with a leakage rate of less than one percent. Coupled with optimized component selection and superior unit design, Carrier sets the industry standard for energy efficiency.

## Acoustics

For optimal sound performance, each Carrier Custom air handler is built with two or four inch thick, acoustically rated panels. Double-wall construction, complete with thermal/acoustic media and solid innerliners, provides excellent transmission losses while ensuring the highest IAQ standards. To enhance acoustic design, panels are also available with perforated inner liners and optional vinyl wrapping of insulation. In order to minimize noise at its source, fan sections are designed in accordance with Air Movement and Control Association International (AMCA®) recommendations. To further reduce inlet and discharge sound power levels, complete sound attenuation packages are available for sound-critical applications. A sound power level analysis is available upon request for any Carrier Custom unit.

## Indoor Air Quality

Whether your application requires dilution, filtration or source control, Carrier has the solution to meet your IAQ needs.

From 100 percent outdoor air units with energy recovery options to the most advanced particulate and gas phase filtration technologies available on the market today, Carrier has the answer. One of the best ways to encourage IAQ is to promote progressive design. All Carrier Custom units feature panels that are easily wiped down, incorporate sloped stainless steel drain pans to prevent standing water and may include UV lights to prevent problems before they begin. For added protection, inner liners can be specified with Agion® antimicrobial coated steel. This technology uses the controlled release of silver ions to provide the continuous suppression of microbial growth on the interior surface of the air-handling unit.

## Innovation, Experience and Expertise

Carrier offers the most complete line of air-handling equipment to match the specific requirements of your unique application.

## Cabinet Construction

- **Cabinet construction** – ASHRAE/ANSI Standard 111 Leakage Class of less than six (6) at 1.5 times operating pressure
- **Unit base** – welded structural steel or aluminum channel
- **Floor** – supported by welded structural steel or aluminum members
- **Floor skin** – welded with standing seams and drive cleats to maintain water and air-tight seal
- **Fans, coils and major components** – supported by structural steel members
- **Floors** – double wall and insulated with a water-impervious spray foam insulation, available in aluminum or galvanized steel from 10 to 16 gauge. 3/16" aluminum tread plate also available.
- **Unit casing side and roof panels** – standing seam modular panel type construction. Caulked and attached to each other, to the roof and to the floor. All sections of panels shall be removable.
- **Outer skin** – stainless, aluminum or galvanized steel from 16 to 18 gauge
- **Inner skin** – stainless, aluminum or galvanized steel from 16 to 22 gauge
- **Panel and insulation thickness** – 2, 3 or 4-inch fiberglass or foam insulation. Thermal break construction is provided for the entire unit.
- **Optional finish** – coated with an industrial-grade, high-solids polyurethane or powder coat



## Benefits at a Glance

### For Building Owners and Managers

- Precision engineered for long, reliable performance
- Low-leakage, energy efficient unit design with low life cycle costs
- Optimized designs for lowest first cost
- Compact designs for maximum space in tight mechanical rooms
- Custom solutions for the most difficult projects

### For Consulting Engineers

- True custom equipment tailored to performance, budget and space requirements
- Virtually limitless options for fans, motors, heating, cooling, humidification, filtration and energy recovery components
- Complete packaged systems with single source responsibility
- Highly knowledgeable engineering support for challenging applications

### For Contractors

- Designed for ease of installation and shipping
- Knock-down construction with factory supervision available for hassle-free on-site assembly
- Factory testing in the North Carolina or California production facilities for guaranteed unit performance
- Experienced technical & sales staff at your service

## A LEGACY OF TRAINING



Willis H. Carrier began training members of the heating, ventilation, air conditioning and refrigeration industry in 1905. Carrier continues to promote technical expertise in the industry with the expansion of its sustainable solutions curriculum and has recently been named a U.S. Green Building Council Education Provider (USGBC EP).

To earn this status, Carrier's course materials were reviewed by a panel of USGBC peers and deemed to provide the high level of quality required for training Leadership in Energy and Environmental Design (LEED®) professionals. The courses and workshops supporting LEED-Accredited Professional and Green Associates credential maintenance are administered through Carrier University.

## THE FUTURE OF THE WORLD DEPENDS ON OUR ABILITY... TO SUSTAIN IT.



As a world leader in high technology heating, air-conditioning and refrigeration solutions, we believe that market leadership requires environmental leadership. Carrier sets industry standards for environmentally responsible business practices and a commitment to sustainability across its products, services and operations. We demonstrate this commitment by creating environmentally sustainable solutions that improve the world – indoors and out.

## SEISMICOMPLIANT\*

\*Meets IBC 2015, ASCE-7-10

**UL723** UL723 Standard for Test for  
CERTIFIED Surface Burning Characteristics  
of Building Materials

