



United Technologies  
turn to the experts 



# A World of Comfort

A Quick Reference Guide to Sustainable Building Solutions



# A World of Comfort

Founded by the inventor of modern air conditioning, Carrier is the world's leader in high-technology heating and air-conditioning solutions.

Carrier experts provide sustainable solutions, integrating energy-efficient products, building controls and energy services for commercial customers.

## chillers

Air-Cooled



**AquaSnap® 30RA Scroll Chillers**  
10 to 150 Tons  
HFC Puron® Refrigerant (R-410A)  
Exceeds ASHRAE 90.1, AHRI Certified



**AquaSnap® 30RB Scroll Chillers**  
60 to 390 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant, AHRI Certified  
Heat Recovery Option



**AquaForce® 30XA Screw Chillers**  
80 to 500 Tons  
HFC-134a  
Exceeds ASHRAE 90.1, AHRI Certified



**AquaSnap® 30RB with Greenspeed® Intelligence Scroll Chillers**  
80 to 390 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant, AHRI Certified  
Variable Speed Condenser Fans  
Heat Recovery Option



**AquaForce® 30XA with Greenspeed® Intelligence Screw Chillers**  
140 to 350 Tons  
HFC-134a  
Exceeds ASHRAE 90.1, AHRI Certified  
Variable Speed Compressor and Condenser Fans



The AquaSnap 30RB with Greenspeed® Intelligence is the first air-cooled scroll chiller in the market to cross the 17.0 IPLV barrier.

Absorption



**16TJ – Single-Effect Steam Chillers**  
100 to 700 Tons  
7 to 15 PSIG Steam  
COP 0.7



**16NK – Double-Effect Steam Chillers**  
98 to 1,323 Tons  
60 to 130 PSIG Steam  
COP 1.28



**16LJ – Single-Effect Hot Water Chillers**  
75 to 525 Tons  
176 to 208 F Hot Water  
COP 0.7



**AquaEdge™ 19XR, XRV Constant or Variable-Speed Centrifugal Chillers Single-Stage**

200 to 1,600 Tons  
HFC-134a  
ASHRAE 90.1 Compliant, AHRI Certified  
ASME Certified



**AquaEdge™ 19XR, 19XRV Constant or Variable Centrifugal Chillers Two-Stage**

HFC-134a  
ASHRAE Compliant, AHRI Certified  
Wide Operating Envelope



**AquaEdge™ 23XR Variable-Speed Screw Chillers with Greenspeed® Intelligence**

175 to 300 Tons  
HFC-134a  
Exceeds ASHRAE 90.1  
Coming Soon



**AquaEdge™ 23XRV Variable-Speed Screw Chillers with GreenSpeed® Intelligence**

250 to 550 Tons  
HFC-134a  
Exceeds ASHRAE 90.1, AHRI Certified\*



The AquaEdge™ 23XRV is the world's leading efficiency screw chiller, 44% better than industry standard.



**AquaForce® 30XW Screw Chillers**

150 to 400 Tons  
HFC-134a  
ASHRAE 90.1 Compliant, AHRI Certified  
Heat Recovery Option



**AquaForce® 30HX Screw Chillers**

75 to 265 Tons  
HFC-134a  
ASHRAE 90.1 Compliant, AHRI Certified\*  
Heat Recovery Option  
Dual, Independent Refrigerant Circuits



**AquaSnap® 30MP Scroll Chillers**

15 to 45 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant, AHRI Certified\*  
Heat Recovery Option  
Modular Design for Easy Installation



**19XRD Dual Circuit Centrifugal Chillers**

2,500 to 3,000 Tons  
HFC-134a  
ASHRAE 90.1 Compliant, AHRI Certified  
ASME Certified



**17DA Open-Drive Centrifugal Chillers**

3,000 to 5,500 Tons  
HFC-134a  
ASME Certified

\*AHRI certified for units within the scope of the AHRI 550/590 certification program.

# air-handling units

## Central Station Air Handlers



**Aero® 39M**  
1,500 to 60,500 cfm  
ASHRAE 62.1 Compliant, AHRI Certified



**Aero® 39L**  
1,800 to 15,000 cfm  
ASHRAE 62.1 Compliant, AHRI Certified



**Aero® 39S**  
400 to 8,500 cfm  
ASHRAE 62.1 Compliant, AHRI Certified



**Custom Offering**  
Custom air-handling equipment for commercial, industrial, and health care applications.



Carrier air-handling units meet the demands of precise indoor environments, including clean rooms and high-tech processing areas.

## air terminals

### Overhead



**Axis™ 35E Single Duct VAV Terminals**  
45 to 7,100 cfm  
LineaCross Airflow Sensor  
AHRI Certified



**Axis™ 35J Retrofit Terminals**  
40 to 3,700 cfm  
**Axis™ 35K Bypass Terminals**  
110 to 4,400 cfm



**Axis™ 35L,N Dual Duct VAV Terminals**  
50 to 7,100 cfm  
Side-by-Side or Mixing Design  
AHRI Certified



**Axis™ 37HS Moduline® VAV Air Terminals**  
100 to 400 cfm  
Integrated VAV Design  
Duct Pressure Powered



**Axis™ 45K/N Series/Parallel Quiet Flow Fan-Powered Terminal Units for VAV Systems**  
90 to 3,900 cfm



**Axis™ 45J/M Series/Parallel Standard Flow Fan-Powered Terminal Units for VAV Systems**  
90 to 3,900 cfm  
LineaCross Airflow Sensor



**Axis™ 45Q/R Series/Parallel Low-Profile Fan-Powered Terminal Units for VAV Systems**  
100 to 2,000 cfm  
Low Profile Design



**45Q DOAS Terminal**  
 90 to 1,550 cfm  
 ECM Motor  
 Sensible Cooling Approximately 3 Tons  
 AHRI Certified

Underfloor



**Axis™ 35BF Diffusers for Variable-Volume Systems**  
 50 to 325 cfm  
 High Impact Polymeric Construction  
 Meets 90B Structural Requirements



**Axis™ 42KC Underfloor Perimeter Fan Coil Units**  
 325 to 2,800 cfm  
 Hot Water or Electric Heat  
 Multiple Option Motors



**Axis™ 45UC Underfloor Series Fan-Powered Units**  
 280 to 1,200 cfm  
 Assists with High Interior Loads  
 Coated Insulation to Prevent Air Erosion



**Axis™ 45XC Parallel Fan-Powered Zone Mixing Units**  
 50 to 6,200 cfm  
 Mixes Primary and Return Air  
 Motor-Blower Isolation

## fan coils



**AirStream™ 42B Belt Drive**  
 600 to 4,000 cfm  
 ETL Listed  
 OSHPD Seismic Compliant



**AirStream™ 42C Horizontal**  
 200 to 1,200 cfm  
 AHRI Certified  
 ETL Listed  
 OSHPD Seismic Compliant



**AirStream™ 42V Vertical**  
 200 to 1,200 cfm  
 AHRI Certified  
 ETL Listed



**AirStream™ 42D Ducted**  
 600 to 2,000 cfm  
 ETL Listed  
 OSHPD Seismic Compliant



**AirStream™ 42S Stack**  
 300 to 2,000 cfm  
 AHRI Certified  
 ETL Listed



**Gemini® 40RUA/Q**  
 6 to 30 Tons  
 HFC Puron® Refrigerant (R-410A)  
 Energy Star

Hydronic Cassette  
 Fan Coil Units



**AirStream™ 42WKN Hydronic Cassette Fan Coil Units**  
 3/4 to 3 Tons  
 ETL Listed

Induction Chilled Water



ActivAIR™ 36CB Chilled Beams

Active Models  
Dry Coil Operation



ActivAIR™ 36IB Induction Beams

70 to 1,285 cfm  
Independently Tested and Verified by ETL  
AHRI Certified Coil Capacities



WeatherMaster® 36S Induction Air Terminals

20 to 130 cfm  
2 or 4 Pipe Designs

split systems

Unit Ventilators



AirStream™ 40UV, UH Unit Ventilators

500 to 2,000 cfm  
AHRI Certified  
ETL Listed

Ductless Split Systems



Highwall-Short Line RAS/GV Series

.75 to 3 Tons  
15 to 23 SEER  
ASHRAE 90.1 Compliant, AHRI Certified



Multi-Split Highwall GVM Series

1.5 to 3.5 Tons  
16 SEER  
ASHRAE 90.1 Compliant, AHRI Certified



Highwall-Long Line RAV/QN Series

1.5 to 3 Tons  
13 to 19.5 SEER  
ASHRAE 90.1 Compliant, AHRI Certified



Cassette/Underceiling RAV/QA Series

1.5 to 5 Tons  
13 to 21 SEER  
ASHRAE 90.1 Compliant, AHRI Certified



VRF Indoor Units MM-AP Series

0.6 to 4 Tons  
Cassette, Underceiling, Highwall and Ducted  
ASHRAE 90.1 Compliant, AHRI Certified

Variable Refrigerant Flow



VRF Heat Recovery and Heat Pumps MMY Series

6 to 20 Tons  
208/230v and 460v 3-Phase  
ASHRAE 90.1 Compliant, AHRI Certified

Condensing Units, Air-Cooled



Performance™ 24ACB

1.5 to 5 Tons  
HFC Puron® Refrigerant (R-410A)  
AHRI Certified



Gemini® Select 38AP

25 to 130 Tons  
HFC Puron® Refrigerant (R-410A)  
Exceeds ASHRAE 90.1, AHRI Rated



**Gemini® 38AUZ/D**

6 to 25 Tons  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant,  
 AHRI Certified, Energy Star

Heat Pump Systems



**Gemini® 38AUQ**

6 to 20 Tons  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant,  
 AHRI Certified

Condensers, Air-Cooled



**Direct Drive Outdoor Air-Cooled Condenser 09AW, AZ**

1 to 20 Tons  
 HFC-134a



**Outdoor Air-Cooled Condenser 09AZ**

90 to 200 Tons  
 HFC-134a



**Indoor Air-Cooled Condenser 09XC**

HFC Puron® Refrigerant (R-410A)



**Gemini® Select 09DP**

18 to 130 Tons  
 HFC Puron® Refrigerant (R-410A)

packaged products

Packaged Rooftop Units



**WeatherExpert™ 48LC, 50LC**

3 to 23 Tons  
 Ultra High Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 Exceeds ASHRAE 90.1, AHRI Certified  
 Exceeds Energy Star, CEE



**WeatherMaster® 48HC, 50HC**

3 to 25 Tons  
 High Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 Exceeds ASHRAE 90.1, AHRI Certified  
 Exceeds Energy Star, CEE

**WeatherMaster® 50HCQ**

3 to 10 Tons  
 High Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 Exceeds ASHRAE 90.1, AHRI Certified  
 Exceeds Energy Star, CEE

improve



WeatherExpert™ has the industry's highest part load performance - IEER ratings in the industry in the 3-5 ton range.



**WeatherMaker® 48TC, 50TC**

3 to 27.5 Tons  
 Standard Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant  
 AHRI Certified

**WeatherMaker® 50TCQ**

3 to 20 Tons  
 Standard Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant  
 AHRI Certified

Constant Volume/  
VAV Rooftop Units



**WeatherMaker® 48/50A Series**

20 to 60 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant  
AHRI Certified



**WeatherMaster® 48/50P Series**

30 to 100 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant  
AHRI Certified



**WeatherExpert™ 48/50N Series**

75 to 150 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant  
AHRI Certified

Small Packaged Products



**Performance™ 48VL**

High Efficient 2 to 5 Tons  
Packaged Cooling with  
Gas Heat  
HFC Puron® Refrigerant (R-410A)

**Performance™ 50VL**

High Efficient 2 to 5 Tons  
Packaged Cooling with  
Electric Heat  
HFC Puron® Refrigerant (R-410A)



**Comfort™ 48ES**

Base Efficient 2 to 5 Tons  
Packaged Cooling with Gas Heat  
HFC Puron® Refrigerant (R-410A)

**Comfort™ 50ES**

Base Efficient 2 to 5 Tons  
Packaged Cooling with Electric Heat  
HFC Puron® Refrigerant (R-410A)



**Comfort™ 48EZ**

Base Efficient 2 to 5 Tons  
Hybrid Heat Dual Fuel Heat Pump  
HFC Puron® Refrigerant (R-410A)

**Comfort™ 50EZ**

Base Efficient 2 to 5 Tons  
Packaged Heat Pump  
HFC Puron® Refrigerant (R-410A)

Indoor Self-  
Contained Systems



**Omnizone™ 50XC Water-Cooled/Air-Cooled/Remote Air-Cooled**

5 to 20 Tons  
HFC Puron® Refrigerant (R-410A)  
AHRI Certified



**Omnizone™ 50XJ Water Cooled**

60 to 100 Tons  
HFC Puron Refrigerant (R-410A)  
AHRI Certified



**Omnizone™ 50BV**

18 to 60 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant  
AHRI Certified



**Room Top® 50AH Horizontal Indoor Single-Package Cooling Units**

2 to 8 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant  
AHRI Certified

# geothermal water source heat pumps



Aquazone™ 50PSH, PSV, PSD  
Horizontal/Vertical Upflow;  
Vertical Downflow  
1/2 to 6 Tons  
HFC Puron® Refrigerant (R-410A)  
Exceeds ASHRAE 90.1, AHRI Certified



Aquazone™ 50PTH, PTV, PTD  
Horizontal/Vertical Upflow;  
Vertical Downflow  
2 to 6 Tons  
HFC Puron® Refrigerant (R-410A)  
Exceeds ASHRAE 90.1, AHRI Certified



Aquazone™ 50PSW  
Water-to-Water Units  
3 to 30 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant



Aquazone™ 50HQP  
Horizontal Large Capacity  
6 to 10 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant, AHRI Certified

Aquazone™ 50VQP  
Vertical Large Capacity  
7 to 25 Tons  
HFC Puron® Refrigerant (R-410A)  
Standard and Extended Range Models  
ASHRAE 90.1 Compliant, AHRI Certified



Aquazone™ 50PEC Console Unit  
3/4 to 1-1/2 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant, AHRI Certified

## energy recovery



Aquazone™ 50PCH, 50PCV  
Compact Unit  
1/2 to 5 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant



EnergyX System  
Energy Recovery Ventilator (ERV)  
WeatherMaster Rooftops



62E Packaged Energy Recovery  
Ventilator  
350 to 25,000 cfm  
AHRI Certified

## dedicated outdoor air products



62D Dedicated Outdoor Air Unit  
6 to 35 Tons  
HFC Puron® Refrigerant (R-410A)

62R Dedicated Outdoor Air Unit  
with WSHP  
6 to 35 Tons  
HFC Puron® Refrigerant (R-410A)



## User Interfaces

The i-Vu Building Automation System has a variety of user interfaces to make it easy for facility managers to monitor and control all of their building systems.

- i-Vu® web appliances
- i-Vu® web-based software for PC
- i-Vu® Touch local user interfaces



## Application-Specific Controllers

Carrier has application-specific i-Vu controllers available for all of your system needs. All controllers come with pre-engineered and pre-programmed control algorithms, making equipment easy to configure, commission, and operate. All controllers speak native BACnet® and include built-in graphics, trends, and alarms for use with our i-Vu User Interfaces.

- VVT and VAV zoning
- Rooftop Units, Air-Handling Units, and Water Source Heat Pumps
- Fan Coils and Unit Ventilators
- Air and Water Cooled Chillers
- Chiller Plants



## Programmable Controllers

Our general purpose i-Vu controllers are used on HVAC equipment and other building systems so that the i-Vu system can monitor and control them. All controllers speak Native BACnet® and include built-in graphics, trends, and alarms for use with our i-Vu User Interfaces.

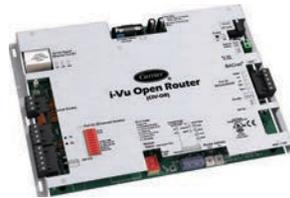
### Typical Applications:

- Air Handlers
- Chiller Plants
- Meters
- Fans
- Lights
- Custom Control Sequences

improve

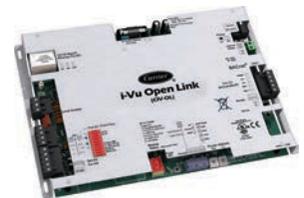


The i-Vu Open control system enables system optimization and energy efficiency by monitoring and measuring equipment and overall building performance.



## Routers

Expand your control system easily using our i-Vu Routers. The i-Vu Open Router provides BACnet routing capabilities between our control system's Ethernet backbone (BACnet/IP), and a subnetwork of Carrier controllers (MS/TP or CCN). They install easily on the existing building LAN, and are a great way to bring the Carrier control system into any building.



## Integration Modules

Our i-Vu Link allows you to integrate other manufacturers' equipment into the Carrier Control System. Support for BACnet, Modbus®, and LonWorks® protocols is standard, making it easy to tie in equipment such as VFDs, boilers, and lighting.



## Sensors

Sensors are the eyes and ears of the control system, allowing controllers to match comfort and indoor air quality requirements with equipment operation. Carrier offers the following sensors:

- Temperature
- CO<sub>2</sub>
- Humidity
- VOC
- Any combination of the above

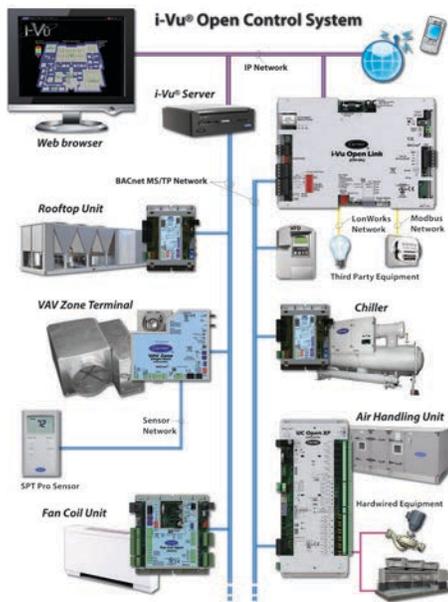
## VVT® Zone Dampers

For variable volume/variable temperature systems, the VVT® system includes a selection of round and rectangular dampers. The factory-integrated VVT® zone controller maintains space temperature by modulating the supply airflow, while a separate bypass damper is used to modulate system pressure.

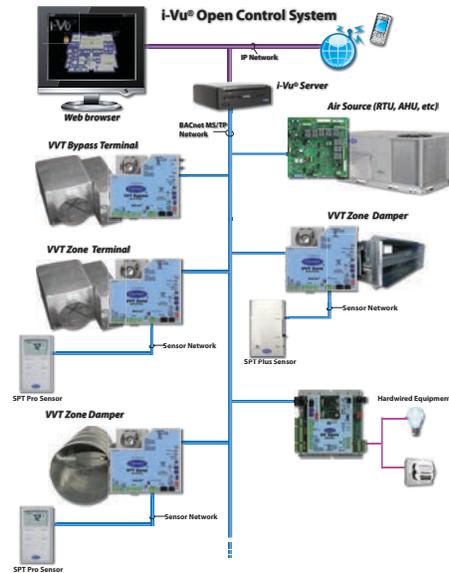
## Edge® Pro and Comfort™ Pro Thermostats

Controls up to 3 stages heat and 2 stages cool  
 Compatible with gas/electric heat fan coils and heat pumps  
 7-Day programmable  
 Humidity control capable  
 Separate heating and cooling setpoints  
 Auto-changeover  
 Energy-saving smart fan  
 Large backlit displays  
 No batteries required  
 Flexible mounting options

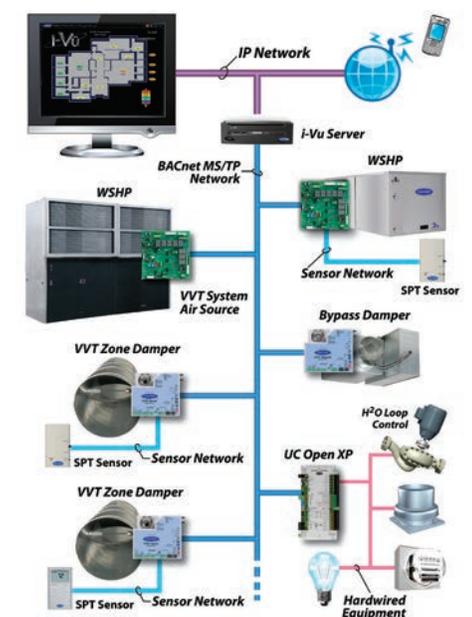
## Chiller



## Rooftop



## Water Source Heat Pump



## Leaders in HVAC engineering software

**HVAC Analysis Tools.** With its eDesign Suite software, Carrier has been an industry leader in providing HVAC engineering analysis tools since 1981. The flagship software tool in the eDesign Suite is the Hourly Analysis Program (HAP), a multifunctional tool which combines features for peak load estimating, system design, whole building energy analysis, LEED® Energy and Atmosphere Credit 1 analysis, and schematic design energy performance evaluation. Other eDesign Suite tools include System Design Load, a dedicated peak load and system design tool; Block Load, a peak load and system design tool streamlined for speed; Engineering Economic Analysis, a lifecycle costing tool; and Refrigerant Piping Design. eDesign Suite programs are licensed to users through local Carrier sales offices or Carrier distributorships. The software is continually updated to keep pace with the demands of our ever-changing industry.

**Product Selection Tools.** Carrier also offers the Carrier Electronic Catalog (E-CAT), a fully integrated suite of tools for selecting, configuring, and generating thermal, electrical and acoustical performance data for Carrier commercial HVAC products. Tools in this suite cover rooftop units, split systems, dedicated outdoor air (DOAS) units, self-contained units, fan coils, unit ventilators, water source heat pumps, induction terminals, and air terminals. These tools are continually updated to keep pace with new product introductions. They can be downloaded without charge from the Carrier commercial HVAC web site [www.commercial.carrier.com](http://www.commercial.carrier.com).

**Software Support and Training.** All Carrier eDesign Suite and E-CAT software is backed by e-mail and toll-free support for users with a currently active license. In addition, for-free software training is offered in cities across the US and Canada every year. Training covers peak load estimating and system design, whole building energy simulation, applying HAP to the LEED Energy and Atmosphere Credit 1 analysis, and Advanced Modeling Techniques. Support and training are provided by a dedicated team of HVAC engineers, part of Carrier University™, who have decades of experience as consulting engineers, application engineers and HVAC sales engineers.

### eDesign Suite HVAC Analysis Software Tools

- Hourly Analysis Program (HAP)
- System Design Load (peak loads, system design)
- Block Load (peak loads, system design)
- Engineering Economic Analysis (lifecycle costing)
- Refrigerant Piping Design

### Hourly Analysis Program (HAP) Capabilities

- Peak load estimating
- System design
- Whole building energy simulation
- LEED Energy and Atmosphere Credit 1 analysis
- Schematic design energy performance evaluations

### E-CAT Product Selection Tool Capabilities

- Equipment selection per operating requirements
- Product configuration of options and accessories
- Thermal, electrical, and acoustical performance data
- Certified drawings

### eDesign Suite Software Training

- Peak load estimating and system design
- Whole building energy analysis
- Advanced Modeling Techniques
- HAP for LEED EA Credit 1 analysis
- Advanced Modeling Techniques

To learn more, visit us at [www.carrier.com](http://www.carrier.com)

## Carrier Commercial HVAC Mobile Apps



### Carrier Rooftops app

The first of its kind in the industry, the Carrier Rooftops app enables you to perform on-the-spot selection of light commercial rooftop units for replacement or new construction.

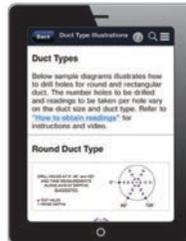
- Estimates potential energy savings
- Provides contact information for your local sales office
- Provides roof-curb adapter info on replacement jobs



### Carrier Chillers app

Enables customers to perform on-the-spot selection of water- or air-cooled chillers for replacement or new construction projects.

- Displays product information including options and accessories
- Provides contact information for your local sales office
- Sends a detailed product page through email



### Carrier Airflow Measurement app

Guides users through the airflow measurement process and automatically calculates airflow in a round or square duct.

- Determines number and locations of measurements to be taken and calculates airflow based on measurements
- Email the results
- Provides step-by-step process and video on how to take accurate readings



### Technical Literature app

A great tool for sales or service, this app places Carrier technical literature at your fingertips. You can search the library and download the literature you need.

- Download and view Commercial Technical Literature
- Select Current or Obsolete Literature
- Search by Document Type or Title



## Leaders in training

**Training Legacy:** In the early 20th century, Willis Carrier began his legacy of heating, ventilation and air-conditioning (HVAC) innovation—and Carrier has trained the industry ever since. Carrier University™ is the premier learning organization in the HVAC industry.

**Relevant Courses:** With locations throughout the world, Carrier University offers comprehensive HVAC training in a wide range of areas including technical skills, HVAC system design, sustainable and green building, sales and marketing skills, business management, customer service, and controls.

**Immediate Applications:** Carrier University has training courses for dealers, distributors, technicians, designers, contractors, consulting engineers, and sales and service personnel. Carrier University delivers these courses through traditional classroom settings, self-study literature programs, remote training sessions, and online, web-based systems.

**Industry Credibility:** Our commitment to quality training has continued throughout our history and today Carrier University is an IACET®-approved provider, which makes our courses eligible for continuing education credit. Carrier University is also a U.S. Green Building Council Approved Education Provider.

**Sustainability Focus:** For those seeking sustainability education, the Carrier University Institute for Sustainability focuses on professional development, technical training and application tools.

**Delivery Options:** For those who cannot attend classes, Carrier University provides self-study training as well as literature programs that may also be used to instruct others. Carrier University's literature programs include books, CD-ROMs, and PowerPoint presentations. We also have a growing library of interactive computer-based training and online, web-based training.

### Broad Curriculum Offering

- Equipment technical training
- HVAC systems design
- Controls and systems monitoring
- Sustainable design and green building
- Residential, light commercial, commercial

### Local, Central, Virtual

- Traditional classroom
- Online learning
- Self-directed programs
- Remote, on-site training
- Custom courses

To learn more, visit us at [www.carrieruniversity.com](http://www.carrieruniversity.com)



## Carrier Commercial Service

### Leaders in service

As Carrier's own servicing entity, we provide a broad portfolio of services from maintenance to retrofits and optimization with factory-trained certified technicians trained on products, customer service and safety.

#### Operation, Service and Protection

- Start-up service
- Extended warranty protection
- Service agreements
- Predictive maintenance
- Refrigerant management
- Rental solutions

#### Retrofits, Upgrades and Optimization

- Equipment overhaul and modernization
- Turnkey retrofit solutions
- Equipment optimization
- Energy savings solutions
- Building management solutions
- Engineered services



## Carrier Rental Systems

### Leaders in temporary HVAC solutions

Carrier Rental Systems' factory-trained experts deliver turnkey temperature control, dehumidification and power solutions along with 24-hour customer care.

#### Solutions

- Commercial Applications
- Industrial Applications
- Special Events
- Disaster and Recovery Planning

#### Industries Served

- Airports
- Construction
- Food Processing
- Packaging
- Pharmaceutical
- Senior Housing and Assisted Living
- Sporting Events
- TV and Movie Production



To learn more, visit us at [www.carrier.com](http://www.carrier.com)

To learn more, visit us at [www.carrierrentals.com](http://www.carrierrentals.com)

## Kensington High School (Education) Philadelphia, PA LEED® Certified



**Challenge:** Create a bright, comfortable, inspirational environment to facilitate education and empower students and teachers; provide sustainable heating, cooling and ventilation in a dense urban setting; attain LEED® Platinum certification.

**Solution:** Specify reliable units that offered individually controlled outside air to each classroom, with minimal maintenance and space requirements.

**Equipment:**  
77 Aquazone™ water source heat pumps, including 50PSH, 50PTH and 50PTV

## North Carolina Central University (Higher Education) Durham, NC LEED® Certified



**Challenge:** Construct a new residence hall that complements the historic complex, provides a safe and comfortable learning environment for students, meets state-mandated energy efficiency marks, and achieves LEED® certification.

**Solution:** Combine quiet, reliable, efficient chillers that excel at part-load performance and have a small footprint with horizontal fan coil units located in residence units that students can adjust +/- 4 degrees for individual comfort.

**Equipment:**  
Two AquaForce® 30XW water-cooled screw chillers; AirStream™ 42C horizontal fan coils

## Mater Hospital, Queensland (Health Care) Townsville, Australia



**Challenge:** Provide reliable comfort to patients and staff while also delivering superior efficiency, as measured both in energy consumption and power demand.

**Solution:** Upgrade the chiller plant with units in a series counterflow arrangement that provides superior efficiency performance and low operating costs. The new plant also provides N+1 redundancy, the highest standard for health care applications, and leaves room for the hospital to expand.

**Equipment:**  
Two Evergreen® 23XRV chillers in series counterflow arrangement

## Waterville TG (Manufacturing) Quebec, Canada



**Challenge:** Replace an outdated ammonia-cooled chiller with a new unit that can operate efficiently in a range of conditions and loads, accommodate new production needs, and meet the environmental goals of the company.

**Solution:** Install a chiller with variable speed drive that is able to operate efficiently at very low speeds, uses an environmentally balanced HFC-134a refrigerant, and is known for its efficiency and reliability.

**Equipment:**  
One Evergreen® 23XRV water-cooled screw chiller

## Crate & Barrel (Retail) Durham, NC



**Challenge:** Allow store personnel to control both lighting and heating, ventilation and air conditioning systems in a precise, flexible manner to preserve customer comfort and suitable humidity levels for optimum product quality.

**Solution:** Design a control system with BACnet® controls installed on all the equipment in the store. Integrate the Carrier i-Vu® Open Control System on all components and provide a user-friendly web interface that enables fluid scheduling of both lighting and HVAC systems, providing store personnel with the capacity to maximize conditions for customers and products.

**Equipment:**  
i-Vu® Open Plus web user interface

## The Resurrection Center (Multi-Purpose Bldg.) Wilmington, DE



**Challenge:** Replace outdated heating and cooling system with efficient, reliable unitary system without disrupting occupants of the heavily used building. Obtain remote monitoring and troubleshooting capabilities.

**Solution:** Select rooftop units known for quality, efficiency and reliability that can be installed zone-by-zone without disruption to daily activities, preserving heating, cooling and ventilation service to all parts of the building at all times.

**Equipment:**  
Eight WeatherMaster® 48HC packaged rooftop units; i-Vu web-based user interface

# award winning factories

Carrier is committed to providing energy-efficient building solutions to help customers reduce costs and minimize their impact on the environment. Those same standards apply internally, ensuring green products are produced in green factories.

Carrier audits overall energy performance at each factory and implements programs to reduce consumption. Ways we have conserved include converting to high-efficiency, low-mercury content bulbs, implementing alternative transportation plans and employing green housekeeping.

Carrier has even taken advantage of free behavior-changing ideas to drive savings, such as instituting night power outage plans and shutting down power in all circuits not used during evening hours.

Industry organizations such as the U.S. Green Building Council, Industry Week, and Underwriters Laboratories® (UL), have recognized Carrier for its leadership in reducing its environmental impact at its manufacturing facilities. Customers can be confident that the products they purchase from Carrier are not only energy-efficient and environmentally responsible but also that they are manufactured at best-in-class sustainable factories.



Charlotte, North Carolina  
Chillers and Split Systems  
LEED® certification  
*Industry Week's Best Plants* winner



Huntington, Indiana  
Controls  
LEED® Gold certification  
*Industry Week's Best Plants* winner



Monterrey, Mexico  
Rooftops, Split Systems and Air Handlers  
LEED® Gold certification

Carrier's newest manufacturing facility in Monterrey, Mexico, earned Gold certification under the LEED® for New Construction rating system



Stone Mountain, Georgia  
Compressors  
*Industry Week's Best Plants* winner



## Willis Carrier a sustaining vision

One hundred and twelve years ago, a humble but determined engineer solved one of mankind's most elusive challenges by controlling the indoor environment. A leading engineer of his day, Carrier would file more than 80 patents over the course of his career. His genius would enable incredible advancements in health care, manufacturing processes, research, building capacities, food preservation, transportation, art and historical conservation, general productivity, indoor comfort and much more.

Carrier's foresight changed the world forever and paved the way for over a century of once-impossible innovations. Yet, in addition to being an accomplished inventor, he was also an avid outdoorsman. Carrier recognized the power and beauty of the natural environment. This appreciation of our world and its resources continues to guide Carrier today.

Harnessing the same vision and determination Willis did so many years ago, the men and women of Carrier work every day to accomplish more with less, and preserve resources for future generations. We have a unique willingness to develop new technology, the confidence to revise proven designs, and the ability to deliver results with every new installation.

**Above all, we will never rest on our accomplishments, but instead consistently look for ways to improve—our products, our environment and our world.**

Willis wouldn't have it any other way.

Willis Carrier was the company's **earliest sustainability leader**. Utilizing precise cooling processes, his invention would enable countless industries to avoid waste and preserve resources for future generations.

### The Future of the World Depends on Our Ability... to Sustain it.

The word "improve" represents Carrier's belief in continuous improvement of our products and services, our customers' experience and our environmental impact.



Whether it's reducing our greenhouse gas impact, leading the phase-out of ozone-depleting refrigerants, or introducing many of the world's most energy-efficient building solutions, at Carrier, we incorporate sustainability into all that we do. To us, it's only natural.



1-800-CARRIER [www.carrier.com](http://www.carrier.com)

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Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.