




United Technologies  
turn to the experts 



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# 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 a world 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 (50 & 60Hz)  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant, 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 90.1-2016,  
AHRI Certified



**AquaSnap® 30RAP with Greenspeed® Intelligence Scroll Chillers**  
10 to 60 Tons (50 & 60 Hz)  
Exceeds ASHRAE 90.1-2016  
Variable-Speed Condenser Fans



**AquaSnap® 30RB with Greenspeed® Intelligence Scroll Chillers**  
80 to 390 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1-2016 Compliant,  
AHRI Certified  
Variable-Speed Condenser Fans  
Heat Recovery Option



**AquaForce® 30XV with Greenspeed® Intelligence Screw Chillers**  
140 to 500 Tons (50 & 60Hz)  
HFC-134a  
Exceeds ASHRAE 90.1-2016, AHRI Certified  
Variable-Speed Compressor and  
Condenser Fans



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® 19DV Advanced Two-Stage Compression with Greenspeed® Intelligence**

500 to 800 Tons  
 HFO-1233zd(E)  
 Exceeds ASHRAE 90.1/FEMP  
 Heat Recovery, Free Cooling &  
 Comfort Cooling



**AquaEdge® 19XR(V) Constant- or Variable-Speed Centrifugal Chillers Single-Stage**

200 to 1,600 Tons  
 HFC-134a or HFC/HFO-513A  
 ASHRAE 90.1 Compliant, AHRI Certified  
 ASME Certified



**AquaEdge® 19XR(V) Constant- or Variable-Speed Centrifugal Chillers Two-Stage**

800 to 3,400 Tons  
 HFC-134a or HFC/HFO-513A  
 ASHRAE 90.1 Compliant, AHRI Certified  
 Wide Operating Envelope



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

175 to 300 Tons  
 HFC-134a  
 Exceeds ASHRAE 90.1, AHRI Certified  
 Wide Operating Envelope



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

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



The AquaEdge® 23XRV is the world's leading efficiency screw chiller, 42% better than industry standard.\*\*



**AquaForce® 30XW Screw Chillers**

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



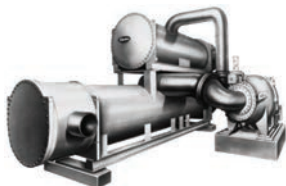
**AquaForce® 30HX Screw Chillers**

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



**AquaSnap® 30MP Scroll Chillers**

16 to 71 Tons  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant, AHRI Certified\*  
 Heat Recovery Option  
 Modular Design for Easy Installation



**AquaEdge® 17DA Open-Drive Centrifugal Chillers**

3,000 to 5,500 Tons  
 Motor or Steam Turbine Driven  
 HFC-134a  
 ASME Certified

\*AHRI certified for units within the scope of the AHRI 550/590 certification program.  
 \*\*Among electric-driven, water-cooled chillers as mentioned by Integrated Part Load Value conditions based on ASHRAE 90.1 2010 minimum requirement.  
 †Select models only.

# 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



**Carrier Custom 39CC**  
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**  
23 to 7,100 cfm  
AHRI Certified



**Axis™ 35J Single Duct Retrofit Terminals**  
23 to 3,700 cfm  
AHRI Certified

**Axis™ 35K Bypass Terminals**  
45 to 4,400 cfm  
AHRI Certified



**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 Diffusers  
Duct Pressure Powered



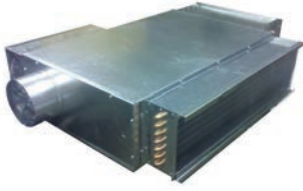
**Axis™ 45K/N Series/Parallel Quiet Flow Fan-Powered Terminal Units for VAV Systems**  
90 to 3,900 cfm  
AHRI Certified



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



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



**45Q DOAS Terminals**  
90 to 1,550 cfm  
ECM Motor  
Sensible Cooling  
AHRI Certified

Underfloor

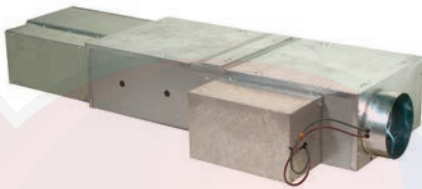


**Axis™ 35BF Diffusers for Variable-Volume Underfloor Systems**  
50 to 325 cfm  
High Impact Polymeric Construction  
Meets 90B Structural Requirements



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

fan coils



**Axis™ 45UC Underfloor Series Fan-Powered Units**  
280 to 1,200 cfm  
AHRI Certified



**Axis™ 45XC Parallel Fan-Powered Zone Mixing Units**  
50 to 6,200 cfm  
Underfloor Applications  
AHRI Certified



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



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



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



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



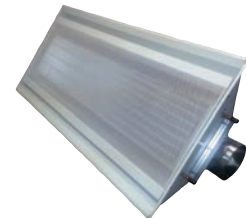
**AirStream™ 42S Stack**  
300 to 2,000 cfm  
AHRI Certified  
ETL Listed

Hydronic Cassette Fan Coil Units



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

Induction Chilled Water



**ActivAIR™ 36CB Chilled Beams**  
Active Models  
Dry Coil Operation



**ActivAIR™ 361B Induction Beams**  
70 to 1,285 cfm  
Active Models  
Sensible and Latent Cooling Capability



**WeatherMaster® 36S Induction Air Terminals**  
20 to 130 cfm  
2 or 4 Pipe Designs

Unit Ventilators



**AirStream™ 40UV, UH Unit Ventilators**  
500 to 2,000 cfm  
AHRI Certified  
ETL Listed

split systems

Ductless Systems, Single Zone



**MP High Wall Systems**  
0.75 to 1 Ton  
Up to 42.0 SEER/15.0 HSPF  
ASHRAE 90.1 Compliant, AHRI Certified



**38MA\*R Heat Pumps**  
0.75 to 3 Tons  
40MAQ High Wall  
40MBCQ Cassette  
40MBDQ Ducted  
40MBFQ Floor Consoles  
Up to 25.0 SEER/12.0 HSPF  
ASHRAE 90.1 Compliant, AHRI Certified



**MH High Wall Systems**  
0.75 to 2 Tons  
Up to 17.5 SEER/9.0 HSPF  
ASHRAE 90.1 Compliant, AHRI Certified

Ductless Systems, Multi-Zone



**MGR Systems**  
Up to 5 Zones  
1.5 to 4 Tons  
Up to 23.8 SEER/10.5 HSPF  
ASHRAE 90.1 Compliant, AHRI Certified

Ductless Systems, Light Commercial



**RAV\*AT**  
1.5 to 3.5 Tons  
RAV\*KRT High Wall  
RAV\*UT Cassette  
RAV\*BT Ducted  
RAV\*CT Underceiling  
Up to 21.0 SEER/11.9 HSPF  
ASHRAE 90.1 Compliant, AHRI Certified



**MBR Ducted Systems**  
3 to 5 Tons  
Up to 17.4 SEER/10.5 HSPF  
ASHRAE 90.1 Compliant, AHRI Certified



**24AHA4 Cooling Only**  
**25HHA Heat Pumps**  
1.5 to 5 Tons  
MK\*B High Wall  
MK\*C Cassette  
MK\*F Underceiling  
14.0 SEER/8.2 HSPF  
ASHRAE 90.1 Compliant, AHRI Certified

Carrier Variable Refrigerant Flow Systems



**38VMH-1P Heat Pumps**  
3 to 5 Tons  
Up to 18.6 SEER/Up to 10.0 HSPF  
**38VMH Heat Pumps**  
6 to 36 Tons  
Up to 23.3 IEER/Up to 4.29 COP

**38VMR Heat Recovery**  
6 to 28 Tons  
Up to 24.2 IEER/Up to 30.0 SCHE  
**40VM Indoor Units**  
0.6 to 8 Tons  
ASHRAE 90.1 Compliant, AHRI Certified

Toshiba Carrier Variable Refrigerant Flow Systems



**MCY7 Heat Pumps**  
3 to 5 Tons  
Up to 22.7 SEER/Up to 11.5 HSPF

**MMYH Heat Pumps**  
6 to 38 Tons  
Up to 30.0 IEER/Up to 5.02 COP

**MMYF-1P Heat Recovery**  
6 and 12 Tons  
Up to 28.4 IEER/Up to 5.02 COP

**MMYF Heat Recovery**  
6 to 38 Tons  
Up to 30.1 IEER/Up to 38.1 SCHE

**MM-AP Indoor Units**  
0.6 to 8 Tons  
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 38APD/S**  
25 to 130 Tons  
HFC Puron® Refrigerant (R-410A)  
Exceeds ASHRAE 90.1, AHRI Rated



**Gemini® 38AUZ/D**  
6 to 20 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant,  
AHRI Certified, ENERGY STAR®



**Gemini® 40RUA/Q/S**  
6 to 30 Tons

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 Condensers 09AW, AZ**  
1 to 60 Tons  
HFC-134a, R-410A, R-22



**Outdoor Air-Cooled Condensers 09AZ**  
90 to 200 Tons  
HFC-134a



**Indoor Air-Cooled Condensers 09XC**  
5 to 20 Tons  
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  
 (VAV available 6 to 23 Tons)  
 Ultra High Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 Exceeds ASHRAE 90.1  
 IECC Compliant, AHRI Certified



**WeatherMaster® 48HC, 50HC**  
 3 to 5 Tons (Select Models)  
**WeatherMaster® 50HCQ**  
 3 to 10 Tons  
 High Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 Exceeds ASHRAE 90.1  
 IECC Compliant, AHRI Certified



**WeatherMaster® with ecoblue™ technology 48GC, 50GC**  
 3 to 5 Tons  
 High Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 Exceeds ASHRAE 90.1  
 IECC Compliant, AHRI Certified



**WeatherMaker® 48TC, 50TC**  
 7.5 to 27.5 Tons  
**WeatherMaker® 50TCQ**  
 6 to 20 Tons  
 Standard Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant  
 IECC Compliant, AHRI Certified

**WeatherMaker® 48KC, 50KC**  
 3 to 5 Tons (Select Models)  
**WeatherMaker® 50KCQ**  
 3 to 5 Tons  
 Standard Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant  
 IECC Compliant, AHRI Certified



**WeatherMaker® with ecoblue™ technology 48FC, 50FC**  
 3 to 6 Tons  
 Standard Efficiency  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant  
 IECC Compliant, AHRI Certified

## Applied Rooftop Units



**WeatherExpert® 48/50N Series**  
 75 to 150 Tons  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant  
 IECC Compliant



**WeatherMaster® 48/50P Series**  
 30 to 100 Tons  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant  
 IECC Compliant, AHRI Certified



**WeatherMaker® 48/50A Series**  
 20 to 60 Tons  
 HFC Puron® Refrigerant (R-410A)  
 ASHRAE 90.1 Compliant  
 IECC Compliant, AHRI Certified

## Small Packaged Products



**Performance™ 50VG, 48VG**  
 High Efficiency 2 to 5 Tons  
 Packaged Cooling with Electric Heat or Gas Heat  
 HFC Puron® Refrigerant (R-410A)

**Performance™ 50VR, 48VR**  
 High Efficiency 2 to 5 Tons  
 Packaged Heat Pump or Hybrid Heat Dual Fuel Heat Pump  
 HFC Puron® Refrigerant (R-410A)



**Comfort™ 50VL**  
 Base Efficiency 2 to 5 Tons  
 Packaged Cooling with Electric Heat  
 HFC Puron® Refrigerant (R-410A)

**Comfort™ 48VL**  
 Base Efficiency 2 to 5 Tons  
 Packaged Cooling with Gas Heat  
 HFC Puron® Refrigerant (R-410A)

**Comfort™ 50VT**  
 Base Efficiency 2 to 5 Tons  
 Packaged Heat Pump  
 HFC Puron® Refrigerant (R-410A)

**Comfort™ 48VT**  
 Base Efficiency 2 to 5 Tons  
 Hybrid Heat Dual Fuel Heat Pump  
 HFC Puron® Refrigerant (R-410A)



## packaged products (continued)



**Comfort™ 50ZP**  
Packaged Air Conditioner

**Comfort™ 50ZH**  
Packaged Heat Pump

### 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™ 50BV**

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

## water source and geothermal heat pumps



**Aquazone™ 50PSH, PSV**  
Horizontal/Vertical Upflow

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



**Aquazone™ 50PTH, PTV**  
Horizontal/Vertical Upflow

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



**Aquazone™ 50PSW**  
Water-to-Water Units

3 to 35 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant



**Aquazone™ 50HQP**  
Horizontal Large Capacity

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

**Aquazone™ 50VQP**  
Vertical Large Capacity

6 to 30 Tons  
HFC Puron® Refrigerant (R-410A)  
Standard and Extended Range Models  
ASHRAE 90.1 Compliant, AHRI Certified



**Aquazone™ 50PEC Console Units**

0.75 to 1.5 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant, AHRI Certified

## energy recovery

## dedicated outdoor air products



**Aquazone™ 50PCH, 50PCV**  
PCD Compact Units

0.5 to 6 Tons  
HFC Puron® Refrigerant (R-410A)  
ASHRAE 90.1 Compliant



**EnergyX® System**  
Energy Recovery Ventilators (ERV)

WeatherMaster® Rooftops



**62X Air-Cooled DOAS Units**

3 to 55 Tons  
Optional Integrated ERV  
Up to 1,200 MBH Gas Heat  
Available Liquid Subcooling  
Reheat Package



## 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.

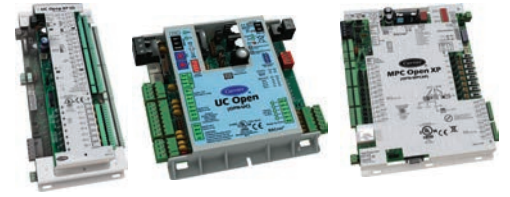
- i-Vu® web appliances
- i-Vu® web-based software for PC
- i-Vu® Touch local user interfaces



## 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



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



## Integration Modules/Routers

Expand your control system easily using Carrier i-Vu® routers and i-Vu® links. The i-Vu® router provides BACnet® routing capabilities between its control system's Ethernet backbone (BACnet/IP), and a subnetwork of Carrier controllers, (MS/TP, Arcnet or CCN).

Carrier 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.



## Plant Control and Optimization

The Carrier® ChillerVu™ plant control system combines application-specific hardware and proprietary software to deliver total plant room automation and improved energy efficiency. Combining the ChillerVu™ plant control system with the ChillerVu™ chilled water system optimizer product results in complete chilled water system energy optimization, reducing overall system energy consumption, while ensuring occupant comfort, improving system reliability and minimizing system downtime.

- Advanced sequencing
- Preconfigured plant room graphics
- Preconfigured energy dashboards
- Water system optimization via intelligent setpoint reset



## 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 options:

- Wired/Communicating
- Wireless
- Temperature
- CO<sub>2</sub>
- Humidity
- Motion
- Light Level



## VVT® Zone Dampers

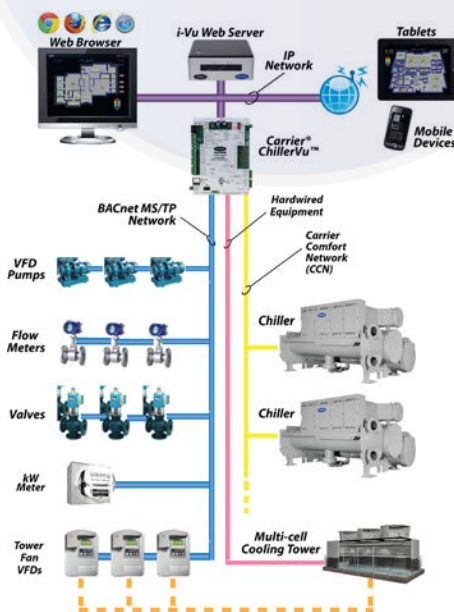
For variable volume/variable temperature systems, the VVT® system includes a selection of round and rectangular dampers. The factory-integrated VVT® zone controller maintains space temperature by modulating the supply airflow, while a separate bypass damper is used to modulate system pressure.



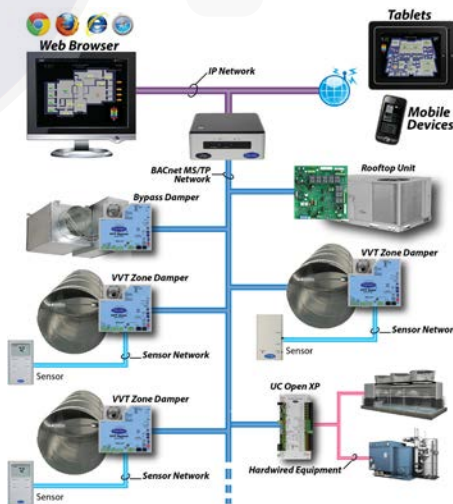
## Edge® Pro and Comfort™ Pro Thermostats

- 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

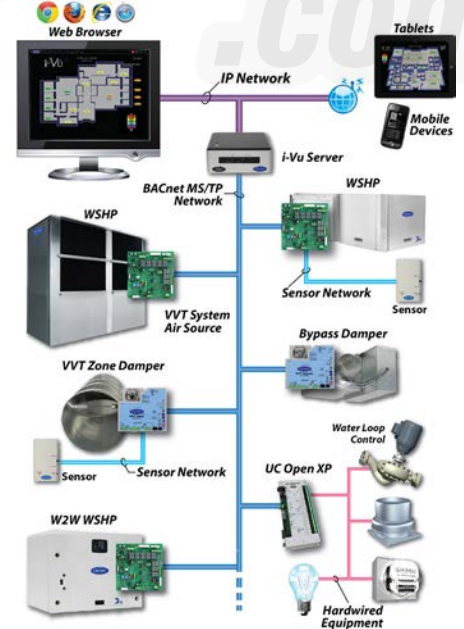
## Water-Cooled Chillers



## Packaged Rooftops



## Water Source Heat Pumps



## 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. Further information on software features and license costs can be found at [carrier.com/commercial/en/us/software](http://carrier.com/commercial/en/us/software).

**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. The software is available through the HVACPartners.com customer portal.

**Software Support and Training.** All Carrier eDesign Suite and E-CAT software is backed by free support for licensed users. In addition, for-fee 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 [carrier.com/commercial](http://carrier.com/commercial)

## 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
- Provides cloud-based data updates to keep app current



### 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
- Provides cloud-based data updates to keep app current



### 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



## Learn from the Experts

**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:** Carrier University offers comprehensive HVAC training in a wide range of areas including technical skills, HVAC system design, sustainability, sales and marketing skills and controls.

**Immediate Applications:** Carrier University has training courses for dealers, distributors, technicians, designers, contractors, consulting engineers, and sales and service personnel.

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

**Delivery Options:** Carrier University delivers courses through traditional classroom settings, self-study training programs, remote training sessions, and online, web-based systems. Carrier University provides self-study training as well as training programs that may also be used to instruct others. Carrier University's literature programs include books, PowerPoint presentations and narrated self-study programs. We also have a growing library of online, web-based training.

### Broad Curriculum Offering

- Equipment technical training
- HVAC systems design
- Controls and systems monitoring
- Residential, commercial

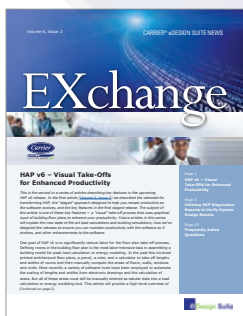
### Local, Central, Virtual

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

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

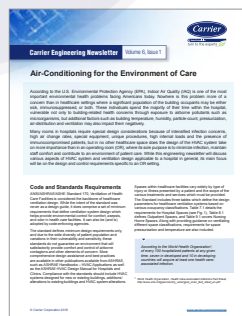


information at the click of a button



### EXchange

EXchange is an electronic newsletter offering timely, informative and interesting news about Carrier eDesign Suite software. Delivered quarterly, each issue provides a wealth of information including technical articles, news about new software releases and software in development, training schedules and registration, and answers to frequently asked software questions.



### Engineering Newsletter

The Carrier Engineering Newsletter is a quarterly communication providing helpful, topical information concerning industry news and HVAC design trends and solutions.



### HVAClips

HVAClips is a monthly newsletter for the consulting/specifying engineer. The publication provides an information-rich conduit for new product releases, case studies, training schedules, and updates to Carrier commercial products.

To find current and past issues, or to subscribe to Carrier's e-newsletters for up-to-date information on a range of topics, go to: [carrier.com/commercial](http://carrier.com/commercial) > Literature > Newsletters.

# Carrier field service

## Leaders in HVAC Building Solutions

Partnering with Carrier Commercial Service brings with it the security of knowing that every facet of your investment is being carefully monitored, analyzed, maintained and documented. This practice initiates with your very first contact with us and will endure over the entire lifetime of your equipment and on to the next. 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
- Carrier® SMART service
- Predictive maintenance
- Refrigerant management
- Repairs and emergency service

### Retrofits, Upgrades and Optimization

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

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

## Leaders in Temporary HVAC Solutions

Ensure that everyone in the office stays cool with Carrier Rentals temporary cooling solutions. With immediate 24-hour availability of chillers, air conditioning units and spot cooling systems, you can be sure to get the right systems to keep your business running. Carrier Rental Systems provides detailed site evaluations for critical areas of your facility. A pre-designed response plan allows for "peace-of-mind" so that in case of an emergency, where time is of the essence, all pre-set-up work has been completed and the equipment is mobilized as designed. Carrier Rental Systems' factory-trained experts deliver turnkey temperature control, dehumidification and power solutions along with 24-hour customer care.



### Why Rent?

- Equipment failure
- Planned shutdowns
- New construction projects
- Supplement existing equipment
- Special events and projects

### Services Provided

- Application engineering
- Contingency planning
- Emergency response
- Installation and teardown
- Turnkey support

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

## Motorcars Toyota (Retail) Mayfield Heights, OH



**Challenge:** Replace outdated heating, ventilating and air-conditioning (HVAC) system and unreliable controls with high-efficiency equipment and secure, easily accessed controls.

**Solution:** Utilized Carrier software to demonstrate the cooling cost savings of the rooftop unit. Recommended Wi-Fi-enabled thermostats, allowing management to precisely manage the HVAC system via computer, smartphone or tablet from any Internet-enabled location.

**Equipment:**  
11 Carrier 48LC WeatherExpert® rooftop units; Carrier Connect™ Wi-Fi-enabled thermostats

## University Hospitals Ashtabula Health Center (Healthcare/Mixed Use) Ashtabula, OH



**Challenge:** Transform an open-plan retail space within a mall with legacy chiller and cooling towers into a modern healthcare facility with precise comfort cooling control.

**Solution:** Specified high-efficiency gas heat and electric cooling units with VAV boxes with reheat capability to provide precise year-round comfort to individual office areas.

**Equipment:**  
Three Carrier 48A WeatherMaker® rooftop units; 39 Carrier 35E Axis™ variable air volume (VAV) boxes; Carrier i-Vu® building automation system (BAS)

## Listrak Corporate Headquarters (Office Building) Lititz, PA



**Challenge:** Design a bundled equipment and controls solution to deliver centralized comfort control for large, common work areas and individualized cooling and heating for peripheral offices.

**Solution:** Installed a bundled HVAC equipment and controls solution designed to meet precise comfort needs of large open work spaces and peripheral offices.

**Equipment:**  
21 Carrier 48TC WeatherMaker® rooftop units; 13 Toshiba Carrier VRF systems; Carrier i-Vu® controls and Carrier i-Vu® building automation system (BAS)

## The Verizon Hotel of Basking Ridge (Lodging) Basking Ridge, NJ



**Challenge:** Address inadequate comfort cooling from two existing air-cooled chillers, reduce escalating service costs and implement solution without facility usage interruption.

**Solution:** Provided high-efficiency chillers that wirelessly stream operating data to the cloud to ensure optimal performance and uptime.

**Equipment:**  
Two Carrier 30XV AquaForce® air-cooled, variable speed screw chillers; Carrier® SMART Service

## Lehigh Valley Health Network (Healthcare/Office Building) Allentown, PA



**Challenge:** Replace original outdated chiller with a reliable, efficient unit which could also take over the load carried by a second, magnetic-bearing chiller that had developed costly ongoing maintenance issues.

**Solution:** Selected a chiller with chlorine-free HFC-134a refrigerant that is not subject to phase-out.

**Equipment:**  
One Carrier 23XRV AquaEdge® water-cooled screw chiller with variable-speed drive (VSD)

## University of Alabama in Huntsville (Higher Education) Huntsville, AL

LEED® Certified



**Challenge:** Deliver an energy-efficient HVAC solution for a new building to support sustainability goals and provide a comfortable indoor environment for students and administrators.

**Solution:** Installed two heat recovery chillers to provide simultaneous heating (condenser water pumped into pre-existing hot water loop) and cooling to multiple campus buildings connected to the central plant.

**Equipment:**  
Two Carrier 30XW AquaForce® heat recovery chillers



## Willis Carrier

### a sustaining vision

One hundred and sixteen 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 healthcare, 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.

**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.

**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.

### 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.



United Technologies  
turn to the experts 

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

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