



 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 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



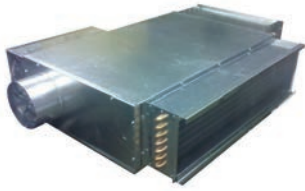
Axis™ 45K/N Series/Parallel Quiet Flow Fan-Powered Terminal Units for VAV Systems
90 to 3,900 cfm
AHRI Certified



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



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



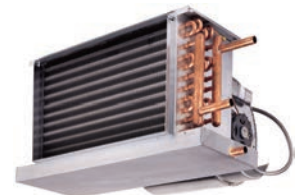
AirStream™ 42C Horizontal

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

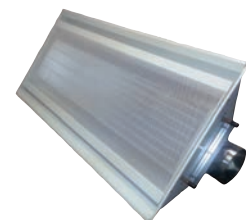
Hydronic Cassette
Fan Coil Units



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™ 36IB 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

Carrier Variable Refrigerant Flow Systems



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



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 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



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

dedicated outdoor air products



62X Air-Cooled DOAS Units

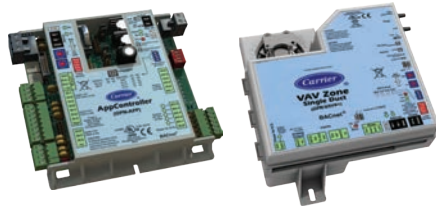
3 to 55 Tons
Optional Integrated ERV
Up to 1,200 MBH Gas Heat
Available Liquid Subcooling
Reheat Package



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.

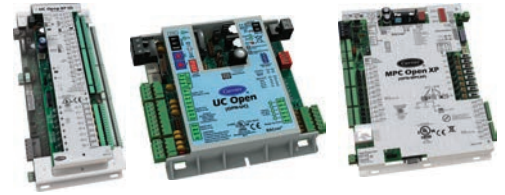
- i-Vu® web appliances
- i-Vu® web-based software for PC
- i-Vu® Touch local user interfaces



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
- CO₂
- Humidity
- Motion
- Light Level



VVT® Zone Dampers

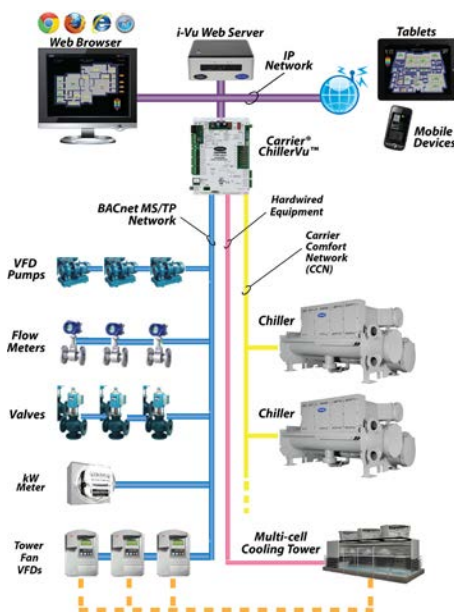
For variable volume/variable temperature systems, the VVT® system includes a selection of round and rectangular dampers. The factory-integrated VVT® zone controller maintains space temperature by modulating the supply airflow, while a separate bypass damper is used to modulate system pressure.



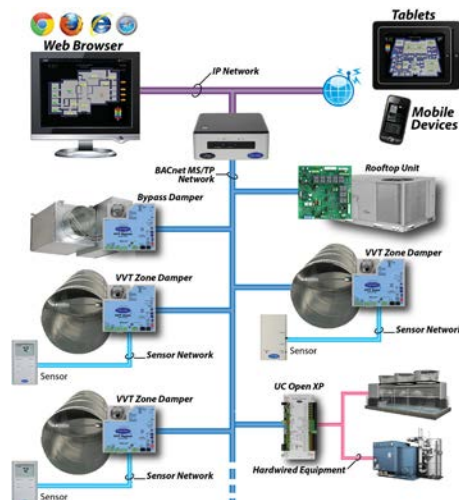
Edge® Pro and Comfort™ Pro Thermostats

- 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

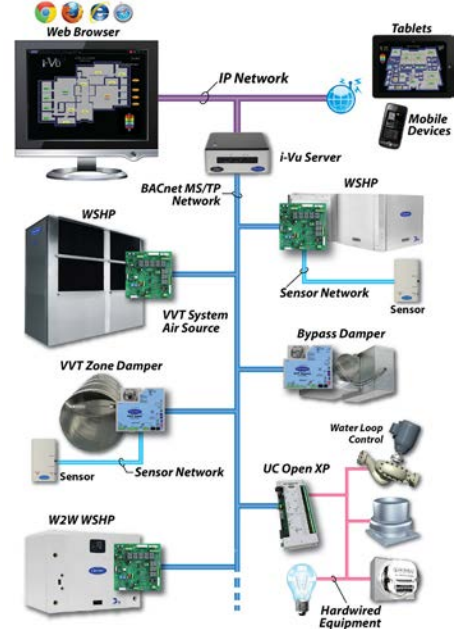
Water-Cooled Chillers



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.

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-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
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

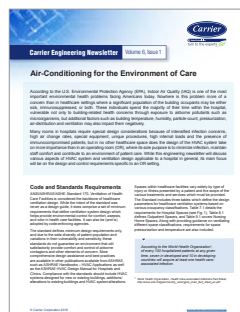


information at the click of a button



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 > 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.



To learn more, visit us at carrier.com/commercial

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

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.



To learn more, visit us at carrier.com/commercial

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

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.



1-800-CARRIER carrier.com/commercial

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Cat. no. 04-811-51009

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