

# A World of Comfort



A Quick Reference Guide to Sustainable Building Solutions for North America Commercial HVAC







# A World of Comfort

As a global leader in intelligent climate and energy solutions, Carrier innovates bestin-class products and services to help shape a better future for people and our planet. Carrier Commercial HVAC solutions provide innovative heating, cooling and building automation solutions and services to help you enhance building health, performance, energy efficiency and sustainability.

## Chillers



AquaSnap® 30RC Scroll Chiller

10 to 60 Tons (60 Hz) R-32 or R-410 Refrigerant Exceeds ASHRAE 90.1-2022 MCHX or AICu Condenser Coils Variable Speed Condenser Fans



AquaSnap® 30RC Scroll Chiller

60 to 250 Tons (60 Hz) R-32 or R-410 Refrigerant Exceeds ASHRAE 90.1-2022 DX or BPHE Evaporator MCHX or AICu Condenser Coils Variable Speed Condenser Fans Desuperheater



### AquaForce® 30XV Screw Chiller

140 to 500 Tons (50 and 60 Hz) R-513A Refrigerant Exceeds ASHRAE 90.1-2022 MCHX or AICu Condenser Coils Variable Speed Compressor and Fans



Modular Waterside Economizer - 09FC

60 to 500 Tons (50 and 60 Hz) Meets Requirements of ASHRAE 90.1-2022 toward incorporating waterside economizer



AquaEdge<sup>®</sup> 19XR/XRV Two-Stage Constant- or Variable-Speed **Centrifugal Chillers** 

600 to 3,400 Tons R-513A or R-515B Refrigerant ASHRAE 90.1 Compliant, AHRI Certified Wide Operating Envelope



AquaEdge<sup>®</sup> 19DV Advanced Two-Stage Compression with Ceramic Bearing and Greenspeed<sup>®</sup> Intelligence

350 to 1,150 Tons R-1233zd(E) Refrigerant Exceeds ASHRAE 90.1/FEMP Heat Recovery, Free Cooling and Comfort Cooling



AquaEdge® 19MV Advanced Two-Stage Compression with Roller Element Bearing or Magnetic Bearing and Greenspeed<sup>®</sup> Intelligence

150 to 700 Tons R-513A, R-515B or R-1234ze(E) Refrigerant Exceeds ASHRAE 90.1 AHRI, ASME and SME Certified Wide Operating Envelope



AquaEdge<sup>®</sup> 19XR/XRV Constantor Variable-Speed Centrifugal Chillers (Single Stage)

300 to 550 Tons R-513A Refrigerant ASHRAE 90.1 Compliant, AHRI Certified ASME Certified



AquaEdge<sup>®</sup> 23XRV Variable-Speed Screw Chillers with Greenspeed<sup>®</sup> Intelligence

175 to 550 Tons R-134A or R-513A Refrigerant Exceeds ASHRAE 90.1 AHRI Certified\* Wide Operating Envelope

## Chillers (continued)



AquaForce® 30HX Screw Chiller

75 to 265 Tons **R-513A Refrigerant** Heat Recovery Option ASHRAE 90.1 Compliant Dual Independent Refrigerant Circuits





AquaSnap<sup>®</sup> 30MP Scroll Chillers and 30MPQ Water Source Heat Pumps

17 to 80 Tons R-32 Refrigerant ASHRAE 90.1 Compliant, AHRI Certified\* Heat Pump Option Heating Capacity: 283 to 1,100 MBH Modular Design for Easy Installation Up to 640 Tons Manifold



AquaEdge<sup>®</sup> 17DA Open-Drive Centrifugal Chillers

3.000 to 5.500 Tons Motor or Steam Turbine Driven R-513A Refrigerant ASME Certified

## **Air Handling Units**



Aero<sup>®</sup> 39M 1,500 to 60,500 cfm ASHRAE 62.1 Compliant AHRI Certified

Carrier Custom AHU 39CC

Custom Air-Handling Equipment

for Commercial, Industrial and

10,000 cfm and Above

Healthcare Applications

IBC Seismic Compliant

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Aero<sup>®</sup> 39L 1,800 to 15,000 cfm ASHRAE 62.1 Compliant AHRI Certified



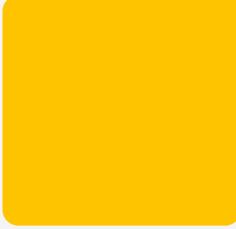
\*AHRI certified for units within the scope of the AHRI 550/590 certification program. \*\*Among electric-driven, water-cooled chillers as mentioned by Integrated Part Load Value conditions based on ASHRAE 90.1 2010 minimum requirement.

The AquaEdge<sup>®</sup> 23XRV is the world's leading efficiency screw chiller,

# 42%

better than the industry standard.\*\*









Aero<sup>®</sup> 39S

400 to 8,500 cfm ASHRAE 62.1 Compliant AHRI Certified



## Air Terminals





Axis<sup>™</sup> 35E Single Duct VAV Terminals 40 to 7,000 cfm

AHRI Certified



Axis<sup>™</sup> 35J Single Duct Retrofit Terminals 40 to 3,700 cfm AHRI Certified



Axis<sup>™</sup> 35K Bypass Terminals 110 to 4,400 cfm AHRI Certified

Axis<sup>™</sup> 45J/M Series/Parallel

100 to 3,900 cfm

AHRI Certified

Standard Flow Fan-Powered

**Terminal Units for VAV Systems** 

## Fan Coils (continued)



AirStream<sup>™</sup> 42D Ducted

600 to 3,000 cfm AHRI Certified ETL Listed

AirStream 42S Stack

300 to 2,000 cfm AHRI Certified ETL Listed



WeatherMaster<sup>®</sup> 36S **Induction Air Terminals** 20 to 130 cfm

## Split Systems

70 to 1,285 cfm

Active Models



MP High Wall Systems

Up to 35.1 SEER2/30.0 HSPF2

ASHRAE 90.1 Compliant, AHRI Certified

0.5 to 1.5 Tons

ActivAIR<sup>™</sup> 36IB Induction Beams

Sensible and Latent Cooling Capability







37MA<sup>\*</sup>A Heat Pumps

0.5 to 3 Tons 45MAHA High Wall

Up to 27.3 SEER2/13.8 HSPF2 ASHRAE 90.1 Compliant, AHRI Certified



Axis<sup>™</sup> 35L/N Dual Duct VAV Terminals

40 to 7,000 cfm Side-by-Side or Mixing Design AHRI Certified



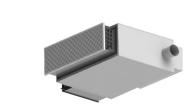
Axis<sup>™</sup> 45Q/R Series/Parallel Low-Profile Fan-Powered Terminal Units for VAV Systems

170 to 1,970 cfm AHRI Certified

## Fan Coils



AirStream<sup>™</sup> 42B Belt Drives 600 to 4,000 cfm ETL Listed



Axis<sup>™</sup> 45F/N Series/Parallel

Terminal Units for VAV Systems

Quiet Flow Fan-Powered

45F: 205 to 3,600 cfm

45N: 50 to 3,700 cfm

AHRI Certified

450 DOAS Terminals 150 to 1,625 cfm ECM Motor Sensible Cooling AHRI Certified



AirStream<sup>™</sup> 42C Horizontal

200 to 1,200 cfm AHRI Certified ETL Listed



AirStream<sup>™</sup> 42V Vertical

200 to 1,200 cfm AHRI Certified ETL Listed



The extensive Axis air terminal product offering provides the ideal amount of design flexibility to minimize installation tasks, lower maintenance costs and supply the consistent comfort that Carrier customers deserve.





## AirStream<sup>™</sup> 42WKN Hydronic Cassette

Fan Coil Units 0.75 to 3 Tons ETL Listed



2 or 4 Pipe Designs



## AirStream<sup>™</sup> 40UV/UH Unit Ventilators

750 to 1,500 cfm AHRI Certified ETL Listed

## 45MBCAQ/45MCCAQ Cassette 45MBDAQ Ducted 45MBFA/45MCFA Floor Consoles





## MH High Wall Systems

0.75 to 3 Tons Up to 21.5 SEER2/10.8 HSPF ASHRAE 90.1 Compliant, AHRI Certified

## Split Systems (continued)







37MGR/H Systems

Up to 6 Zones 1.5 to 6 Tons Up to 23.8 SEER/10.5 HSPF ASHRAE 90.1 Compliant, AHRI Certified



### 37VMH-1P Heat Pumps

3 to 5 Tons Up to 20 SEER2/Up to 10.1 HSPF

### 38VMH Heat Pumps

6 to 36 Tons Up to 23.60 IEER/Up to 4.29 COP



### **MMYF-1P Heat Recovery**

6 to 12 Tons Up to 24.5 IEER

6

## MMYF-U Heat Recovery

6 to 42 Tons Up to 26.5 IEER/Up to 35.0 SCHE

### MMYF-U Elite Heat Heat Recovery

6 to 30 Tons Up to 26.5 IEER/Up to 35.0 SCHE



**RAV\*BAT** 1.5 to 4 Tons

RAV\*BKR2 High Wall RAV\*BUT Cassette RAV<sup>\*</sup>BBT Ducted RAV\*BCT Underceiling

Up to 25.2 SEER2/11.3 HSPF2 ASHRAE 90.1 Compliant, AHRI Certified



**38VMR Heat Recovery** 6 to 28 Tons Up to 21.9 IEER/Up to 28.5 SCHE

## **40VM Indoor Units**

0.6 to 8 Tons ASHRAE 90.1 Compliant, AHRI Certified

## 45VM Indoor Units

0.6 to 4.5 Tons ASHRAE 90.1 Compliant, AHRI Certified



**MM-UP Indoor Units** 0.6 to 10 Tons ASHRAE 90.1 Compliant, AHRI Certified

### **MM-UB** Indoor Units

0.6 to 5 Tons ASHRAE 90.1 Compliant, AHRI Certified



### **MBR Ducted Systems**

3 to 5 Tons Up to 20.2 SEER2/10.8 HSPF2 ASHRAE 90.1 Compliant, AHRI Certified



## MCY8 Heat Pumps

3 to 5 Tons Up to 20.25 SEER2/Up to 10.9 HSPF2

## **MMYH-U Heat Pumps**

6 to 40 Tons Up to 24.2 IEER/Up to 4.74 COP

6 to 30 Tons

## Split Systems (continued)



Performance<sup>™</sup> 24ACB 1.5 to 5 Tons R-410A Refrigerant AHRI Certified



### Gemini<sup>®</sup> Select 38RCD/S Condensing Unit

25 to 150 Tons R-32 Refrigerant Variable Speed Fans **Digital Compressor** MCHX or AlCu Condenser Coils



Gemini<sup>®</sup> 40RLA 6 to 30 Tons

Gemini<sup>®</sup> 40RLQ 6 to 25 Tons

Gemini<sup>®</sup> 40RLS 7.5 to 30 Tons



3 to 25 Tons High-Efficiency R-454B Refrigerant Exceeds ASHRAE 90.1 **IECC** Compliant AHRI Certified



Standard Chassis

27.5 to 100 Tons R-454B Refrigerant Carrier SmartVu<sup>™</sup> Control and Greenspeed<sup>®</sup> Intelligence ECM Fan Array



40QQ VRF Rooftop Unit 3 to 5 Tons ASHRAE 90.1 Compliant, AHRI Certified

### 45QQ VRF Rooftop Unit

3 to 5 Tons ASHRAE 90.1 Compliant, AHRI Certified



ASHRAE 90.1 Compliant, AHRI Certified









Multiple Refrigerant Options Variable Speed Fans MCHX or AlCu Condenser Coils



WeatherMaster® 48V/50V Series

**Compact Chassis** 

R-454B Refrigerant

Carrier SmartVu<sup>™</sup> Control and

Lead Variable Speed Compressor

Fits Select Carrier and Competitor

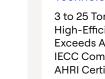
Greenspeed<sup>®</sup> Intelligence

27.5 to 50 Ton Roof Curbs

27.5 to 50 Tons

ECM Fan Array











## Gemini<sup>®</sup> 38AXZ

6 to 20 Tons R-454B Refrigerant ASHRAE 90.1 Compliant, AHRI Certified



## Gemini<sup>®</sup> 38AXQ

6 to 25 Tons R-454B Refrigerant ASHRAE 90.1 Compliant, AHRI Certified

## **Packaged Products**



WeatherMaster® with EcoBlue® Technology 48GE, 50GE, 50GEQ



### WeatherMaker<sup>®</sup> with EcoBlue<sup>™</sup> Technology 48FE, 50FE, 50FEQ

3 to 27.5 Tons 3 to 25 Tons Standard Efficiency R-454B Refrigerant Meets ASHRAE 90.1 **IECC** Compliant **AHRI** Certified



## WeatherMaster<sup>®</sup> 48V/50V Series

Lead Variable Speed Compressor Fits Select Carrier 30 to 100 Ton Roof Curbs



## WeatherMaker<sup>®</sup> 48K/50K Series

20 to 60 Tons R-454B Refrigerant Carrier SmartVu<sup>™</sup> Control Optional Greenspeed® Intelligence and Lead Digital Compressor Fits Select Carrier 20 to 60 Ton Roof Curbs



## Performance<sup>™</sup> 48NG

High Efficiency 2 to 5 Tons Packaged Cooling with Electric Heat or Gas Heat R-454B Refrigerant

### Comfort<sup>™</sup> 50NL

**Base Efficiency** 2 to 5 Tons Packaged Cooling with Electric Heat R-454B Refrigerant

### Comfort<sup>™</sup> 50NT

**Base Efficiency** 2 to 5 Tons Packaged Heat Pump R-454B Refrigerant

Comfort<sup>™</sup> 50ZP Packaged Air Conditioner Comfort<sup>™</sup> 50ZH

Packaged Heat Pump

## Water Source and Geothermal Heat Pumps



## Performance<sup>™</sup> 50NR, 48NR

High Efficiency 2 to 5 Tons Packaged Heat Pump or Hybrid Heat Dual Fuel Heat Pump R-454B Refrigerant

### Comfort<sup>™</sup> 48NL

**Base Efficiency** 2 to 5 Tons Packaged Cooling with Gas Heat R-454B Refrigerant

### Comfort<sup>™</sup> 48NT

**Base Efficiency** 2 to 5 Tons Hybrid Heat Dual Fuel Heat Pump R-454B Refrigerant



Omnizone<sup>™</sup> 50BV 30 to 60 Tons R-454B Refrigerant

### Aquazone<sup>™</sup> 50WC Compact Horizontal/Vertical Units

0.5 to 6 Tons, Single Stage R-454B Refrigerant ASHRAE 90.1 Compliant, AHRI Certified

### Aquazone<sup>™</sup>50WD Horizontal/Vertical Units

0.5 to 1.5 Tons, Single Stage 2 to 6 Tons, Two Stage R-454B Refrigerant Exceeds ASHRAE 90.1 AHRI Certified

### Aquazone<sup>™</sup>50WT Horizontal/Vertical Units

2 to 6 Tons, Two Stage R-454B Refrigerant Exceeds ASHRAE 90.1 AHRI Certified

## Water Source and Geothermal Heat Pumps (continued)



Aquazone<sup>™</sup> 50PSW

R-454B Refrigerant

3 to 35 Tons

Water-to-Water Units

ASHRAE 90.1 Compliant



## Horizontal Large Capacity 6 to 20 Tons

R-454B Refrigerant AHRI Certified up to 120 Size

### Aquazone<sup>™</sup> 50VQP Vertical Large Capacity

6 to 30 Tons R-454B Refrigerant AHRI Certified up to 120 Size

## **Dedicated Outdoor Air Products**





## 62H Air Source Heat Pump DOAS Units

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

## 62L Dedicated Outdoor Air Units 40 to 140 Tons Air-Cooled. Air Source and Water Source Heat Pump

## 62X Air-Cooled DOAS Units

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

Optional Integrated ERV Up to 1,600 MBH Gas Heat



Aquazone<sup>™</sup> 50HQP



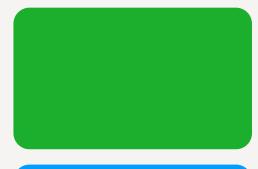
### Aquazone<sup>™</sup> 50PEC Console Units

0.75 to 1.5 Tons R-454B Refrigerant ASHRAE 90.1 Compliant, AHRI Certified



### 62W Water Source Heat Pump **DOAS Units**

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



## **Commercial Controls**

The right control solution for every building



**Building Automation System** for buildings any size

The i-Vu<sup>®</sup> Building Automation

System enables system

optimization and energy

efficiency by monitoring and

overall building performance.

measuring equipment and





Light Commercial Control System for buildings under 50,000 ft<sup>2</sup>



Wi-Fi Thermostats for buildings under 5,000 ft<sup>2</sup>

## **User Interfaces**

The i-Vu<sup>®</sup> Building Automation System

- i-Vu<sup>®</sup> Web Appliance
- **On-Premise Server**

**Carrier Cloud Server** 

i-Vu<sup>®</sup> Touch Local User Interfaces

has a variety of user interfaces to make it easy for facility managers to monitor and control all of their building systems.

- i-Vu<sup>®</sup> Web-Based Software for
- i-Vu<sup>®</sup> Web-Based Software via

## **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**

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:** 





Commercial Controls (continued)

Expand your control system easily using i-Vu<sup>®</sup> Routers and Links. The i-Vu<sup>®</sup> Router provides BACnet routing capabilities between an Ethernet backbone (BACnet/IP) and a subnetwork of Carrier controllers (MS/TP or CCN).

Integration Modules/Routers

i-Vu<sup>®</sup> links allow you to integrate other manufacturers equipment into the Carrier i-Vu<sup>®</sup> system. Support for BACnet, Modbus and LonWorks protocols are 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.

• Light Level

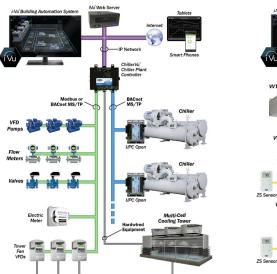
Carrier offers the following sensors in hardwired and communicating options:

Temperature

Water-Cooled Chillers

- CO
- Humidity Motion
- Particulate Matter
- Volatile Organic Compounds (VOCs) Energy Metering
- i-Vu<sup>®</sup> System Architectures

## Packaged Rooftops



10



Custom Applications







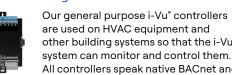




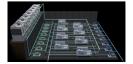














## Plant Control and Optimization

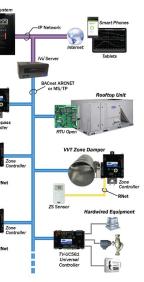
The Carrier ChillerVu<sup>™</sup> Plant Control System delivers total plant room automation for improved energy efficiency. The ChillerVu<sup>™</sup> Plant Control System can be combined with the ChillerVu<sup>™</sup> Chilled Water System Optimizer to further reduce system energy consumption while ensuring occupant comfort, improving reliability and minimizing system downtime.

- Advanced Sequencing
- Pre-configured Plant Room Graphics
- Pre-configured Energy Dashboards
- Water System Optimization via Intelligent Setpoint Reset

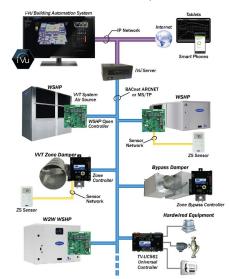


### **VVT Zone Dampers**

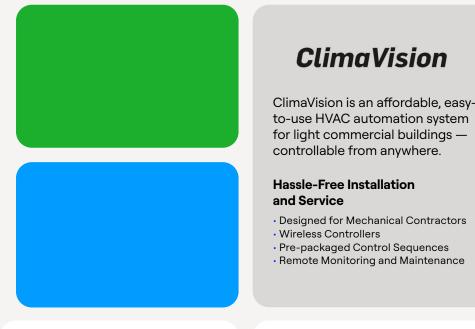
For variable volume/variable temperature systems, the VVT system includes a selection of round and rectangular dampers. The factory-integrated VVT zone controller maintains space temperature by modulating the supply airflow, while a separate bypass damper is used to modulate system pressure.



### Water Source Heat Pumps



## Commercial Controls (continued)





### Web and Mobile User Interfaces

The ClimaVision web and mobile user interfaces offer portfolio-wide insight into building performance.



## Central Control Unit (CCU)

The CCU is a removable wall-mounted tablet and on-site user interface for building management.



HyperStat The HyperStat is an all-in-one

thermostat, humidistat and IAQ sensing station designed with eight onboard sensors for occupancy, temperature, humidity, VOCs, light, sound, CO<sub>2</sub> and PM2.5.



### Smart Node

The Smart Node is a revolutionary equipment controller with flexible software-defined configurations that can control a range of single- and dual-stage equipment across all ClimaVision application solutions.

((connect

Connect Wi-Fi thermostats offer

system via the Connect mobile

app and any BACnet-compliant

building management system.

control of a building's HVAC

## **Connect BACnet Thermostats**

Multiple Models Available: Choose from Plus or Pro Models, available in black or white

Color Capacitive Touchscreen: 4.3" full color LCD swipe and scroll screen that's easy to navigate and view from any angle (Pro Models), or a fixed segment display (Plus Models) BACnet: Easy integration with i-Vu® Building Automation System or any BACnet BMS. Connect Stat is BTL certified. • Sensors: Onboard Temperature and Humidity

• Direct Wi-Fi Access: Easily connect to your building's network • **Commissioning:** Simple Bluetooth connectivity

- Applications: Supports up to 4 heating and 3 cooling stages with various new or existing HVAC equipment with 24 VAC control
- 7-Day Scheduling: Precisely adjust optimum comfort setpoint to achieve energy savings

• Demand Response Ready: For participation in local demand response programs and can support Title 24 and Open ADR 2.0b

· Over-the-Air Software Updates: Directly Sent Over-the-Air Wi-Fi Network Without Having to Manually Check for Updates

# Abound — Suite of Apps

Carrier Abound provides digitally connected lifecycle solutions and services for diverse building portfolios. The solutions and services enable building management to see deeply and broadly across their assets; prioritize and act on real-time insights; and refine, adapt and scale on a continual basis to improve energy efficiency and asset performance, enhance occupant comfort and productivity and streamline compliance reporting.

## A Suite of Award-Winning Solutions That Drive Outcomes



### Healthy Air

- · Live and historical reporting of IAQ metrics with floorplan visualization
- Benchmark thresholds vs. WELL Standard
- Alert management
- BMS and IoT sensor integration
- Enables 35% more productivity for occupants by establishing healthy spaces practices



### Net Zero Management

- Track and analyze energy use and benchmark across other buildings
- Make energy and emissions data readily accessible to key stakeholders
- Proactively Identifies Conservation Measures
- Reduces Risk of Noncompliance
- Increases Productivity





## **Predictive Insights**

- · Leverage AI for predictive maintenance of airside RTU, air handler, VAV and chiller systems
- Reduce operational costs of HVAC assets
- Enables energy savings up to 15%

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## **Occupant Assistant**

- Enable mobile credentialing for frictionless access to buildings
- Allow mobile room booking
- Monitor and visualize occupant space utilization
- · Connect with occupants for alarm notification, events, etc.
- Provides Increased Productivity by Enabling Occupants with Building and Space Engagement



# **Carrier Commercial Services**

A wide array of lifecycle solutions to fit your needs



With Carrier, you are not just getting the most innovative equipment in the industry, but a trusted partner delivering expertise, service and greater peace of mind throughout the entire lifecycle of your HVAC system.

Our comprehensive portfolio of solutions range from predictive maintenance, flexible service agreements, repairs, upgrades, OEM spare parts and rentals, as well as building and energy management systems. And with our BluEdge service agreements, all powered by digital connectivity through Abound<sup>™</sup> HVAC Performance, you get continuous monitoring and actionable insights to ensure your equipment's peak performance and longevity for years to come.

## Carrier Commercial Service Offerings also include:

- Preventive and Predictive Maintenance with BluEdge service agreements and maintenance offerings such as coil cleaning, tube brushing, filter changes and more
- Building Management Solutions with Carrier i-Vu<sup>®</sup> controls system
- Equipment Replacement Solutions for end of life retrofits or replacement parts
- Modernization, Retrofits and Optimization with Variable Frequency Drive upgrades, energy audits and more

Carrier.com/Service 800-379-6484











# **Interactive Software Tools**

## Leaders in HVAC Engineering Software

# **Carrier Commercial Service** Agreements

BluEdge is a best-in-class lifecycle solution including customizable plans to ensure your equipment's peak performance and longevity is backed by unmatched expertise and the latest technology for years to come.

## The BluEdge Difference

Continuous Monitoring

Tiers	<b>Core</b> Solution for customers with IoT-enabled	<b>Enha</b> A cust plan b techn asset maint	
Services	equipment that collects real-time data and provides insights reducing downtime and minimizing operational disruption.		
Abound HVAC Performance <sup>1</sup>	<		
Command Center Monitoring	<		
Operational Inspection – Periodic/Predictive	8		
Maintenance – Planned/Predictive	۲		
Unscheduled Repair	8		
Energy Reporting by Abound	•		
Additional Services	<b>•</b>		

<sup>1</sup>For Core customers, any site visits for maintenance or repair services will be billed separately. Not all features are supported across all product types and all regions. Pricing and features vary by country and region. Please contact your local Carrier office for more details

Abound HVAC Performance is our digital connectivity platform that spans all three service agreement tiers and is part of the broader Abound suite of solutions. It gives you the benefit of continuous monitoring, data-driven predictive insights and reports to see issues before they arise.

More about **Abound HVAC** Performance\*:

 Real-Time Data Visibility Alarm Monitoring and Notifications

Tiers	<b>Core</b> Solution for customers with IoT-enabled	E
Services	equipment that collects real-time data and provides insights reducing downtime and minimizing operational disruption.	
Abound HVAC Performance <sup>1</sup>	$\bigcirc$	
Command Center Monitoring	$\bigcirc$	
Operational Inspection – Periodic/Predictive	$\bigotimes$	
Maintenance – Planned/Predictive	$\otimes$	
Unscheduled Repair	$\otimes$	
Energy Reporting by Abound	<del>()</del>	
Additional Services	<del>()</del>	

Abound HVAC Performance

\*Available for existing customers with equipment that can be IoT enabled



### eDesign Suite HVAC Analysis Software Tools

 Hourly Analysis Program (load calculation, system sizing, system design, energy modeling) • System Design Load (load calculation, system design) Block Load (sizing calculations, design submittals) Building System Optimizer (rapid energy modeling) Engineering Economic Analysis (lifecycle costing) Refrigerant Piping Design

## Hourly Analysis Program

(HAP) Capabilities Peak load estimating System design Whole building energy modeling Energy modeling for schematic design Visual 3D building modeling

### **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 modeling Advanced Modeling Techniques

# **HVAC Analysis Tools**

Carrier's industry-leading eDesign Suite is a collection of software programs created specifically for the HVAC system designer. With tools including the Hourly Analysis Program (HAP), the eDesign Suite covers peak load estimating, system design, whole building energy modeling, energy modeling for schematic design, estimating lifecycle costs, refrigerant piping design and more. Programs are licensed to users on a yearly subscription basis and software is continually updated. Learn more at carrier.com/commercial/en/us/software/hvac-system-design.

## **Product Selection Tools**

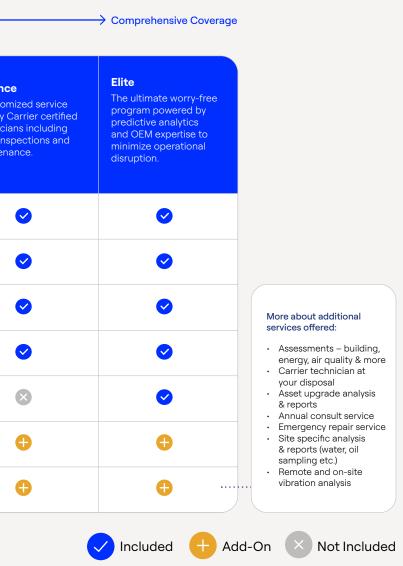
Carrier also offers the Carrier Electronic Catalog (E-CAT), a fully integrated suite of tools for selecting, configuring and generating thermal, electrical and acoustical performance data for a wide range of Carrier commercial HVAC products. These tools are continually updated to keep pace with new product 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, along with free software training virtually and in cities across the U.S. and Canada. Provided by a dedicated team of experienced engineers, HVAC Training covers peak load estimating and system design, whole building energy modeling and advanced modeling techniques.







- On-Demand Health and Performance Reports
- Access to Customer Portal
- Maintenance and **Repair Insights**



# **Carrier Rental Systems**

Carrier Rental Systems is the leading provider of cooling, heating, dehumidification and power generation rental equipment and is dedicated to providing engineered turnkey solutions for temporary HVAC-related requirements. With the most progressively trained service technicians in the industry and extensive experience in integrating rental equipment effectively, the Carrier Rental Systems team has a variety of solutions that fit into a broad range of places and spaces. Carrier delivers an immediate response for emergency or planned HVAC needs nationwide and ensures that it is maintained appropriately for the duration of the project.

# **Spot Coolers**

Spot Coolers offer convenience and efficiency through portable HVAC solutions. Our team helps facility managers keep their operations moving forward when faced with heating and cooling failures, planning for scheduled outages or simply needing supplemental capacity. Spot Coolers experts deliver and install trusted units such as portable air conditioners, electric heaters, dehumidifiers and more when and where you need them. All units fit through standard commercial doors and are available 24/7 with lift-gate equipped box-truck delivery from our nationwide locations.

## **Carrier Service Rentals:**



Planned Maintenance

or Shutdown



Emergency Response





Carrier.com/Rentals 800-586-8336





Water Cooled

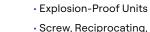
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Industrial







Chillers

• Screw, Reciprocating, Centrifugal and Industrial Chillers to -40°F

• Water-Cooled Chillers: 150 to 1,000 Tons

• Low Temperature Chillers: 30 to 1,100 HP

• Air-Cooled Chillers: 10 to 500 Tons

• Pumps, Transformers and Flexible Hoses

• Tanks and Heat Exchangers

### **Air Conditioners** Small Skid Mounted • 5 to 80 Tons



Industrial

Cold

Storage

Large Skid Mounted

Ultra

Portable







Vertical



High Volume



• Hot Water/Steam Coils Available · Cold Storage Units with

Automatic Defrost



• Reheat Available Industrial/High Static Units • Explosion-Proof Units



## What we offer:

• 1 to 12 Ton Air-Cooled, Water-Cooled, Heat Pump Portable AC

• 1.5-60kw Electric Heat Dehumidifiers Negative Air Machines



Spot-Coolers.com 800-367-8675 spotcoolers@carrier.com



 Custom Solutions Rentals and Sales All Units Stored Indoors

## The Spot Coolers **Difference:**



Intelligent Design and Smart **Engineering That** Create efficiency and Cut Costs



High-Quality Standards Backed by Industry-Leader Carrier



Minimal Maintenance Requirements



Little or No Installation Costs -Just Plug In and Go



Easy Portability





# **Expert Installations**

## Case Study: Wake Tech East Central Energy Plant

Two 500 Ton AquaEdge® 19DV water-cooled centrifugal chillers with VFDs double as both a chiller and heat pump to meet the changing demands of the Wake Tech East's campus, contributing to an innovative, low-carbon solution and achieving several sustainability awards.

# **Carrier University**

Learn From the Experts



## A Showcase for **Teaching Innovative** HVAC System Design and **Sustainable Practices**

The new Renewable Energy Learning Center at Wake Tech East's campus not only supplies heating and cooling to the campus, it serves as an immersive educational experience for its students.

Housed beyond its glasswalled classroom is an advanced central plant that reflects the most innovative, hands-on strategies for experiencing and learning sustainable HVAC and energy practices.

The selection of two AquaEdge<sup>®</sup> 19DV centrifugal heat pump chillers were integral to help Wake Tech meet its sustainable, energy and growth goals.



## **Project Objectives**

From its inception, it was clear that the design and operating criteria for Wake Techs new central energy plant would need to incorporate an innovative integration of leading-edge energy and HVAC equipment technologies. The final solution would have to maximize efficiency and also meet the demand for decarbonized heating and cooling.

Unlike typical central plants that distribute hot water from boilers and chilled water from chillers independently, Wake Tech's facility called for an integrated central heat pump plant with a common set of water source heat pumps to provide the distribution of hot and chilled water to the entire campus.

The plant's systems would have to execute strategies that would achieve a notably high degree of sustainability and energy efficiency. And, as additional campus buildings were going to be phased in, system expandability was a critical requirement.

With Wake Tech's enviable reputation of providing education and training in the very latest technologies and protocols, the facility would also need to serve as a "hands-on" classroom to build talent capable of excelling in high-tech fields and advanced sustainability practices.

## **Project Solution**

To help Wake Tech East's central energy plant achieve its operational, energy efficiency and sustainability goals, Carrier recommended installing two 500-ton AquaEdge<sup>®</sup> 19DV centrifugal chillers to serve as both chiller and heat pump.

The system design consists of three main water loops: chilled water, hot water and heat source/sink water all served by the two 19DVs and a modular heat pump for base loading. The primary means of heat rejection and absorption is via a geothermal bore field tied to the heat source/sink water loop.

The advanced geoexchange system includes 297

closed-loop wells, each 500 feet deep. This system is designed to consume one-third less energy and produce 50% fewer carbon emissions compared to conventional boiler/chiller configurations.

For future build-outs, the system has been designed to be expandable and flexible.

## **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<sup>™</sup> 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, servicing practices, sustainability, sales and marketing service 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 many of our courses eligible for continuing education credit. Carrier University is also a U.S. Green Building Council Approved Education Provider. Our IACETaccredited courses qualify for American Institute of Architects (AIA) credits.

## **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 training programs that may also be used to instruct others.

## 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.

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/en/us/literature/newsletters.

\*Source: Skanska — April 26, 2024: Skanska completes geothermal central energy plant at Wake Tech Community College, https://www.usa.skanska.com/who-we-are/media/press-releases/280522/Skanska-completes-geothermal-central-energy-plant-at-Wake-Tech-Community-College-





, product laboratory

## **Broad Curriculum Offering**

- Equipment technical training
- HVAC systems design
- Controls and systems monitoring
- Commercial Service

## Local, Central, Virtual

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

To learn more, visit us at Carrier.com/CarrierUniversity

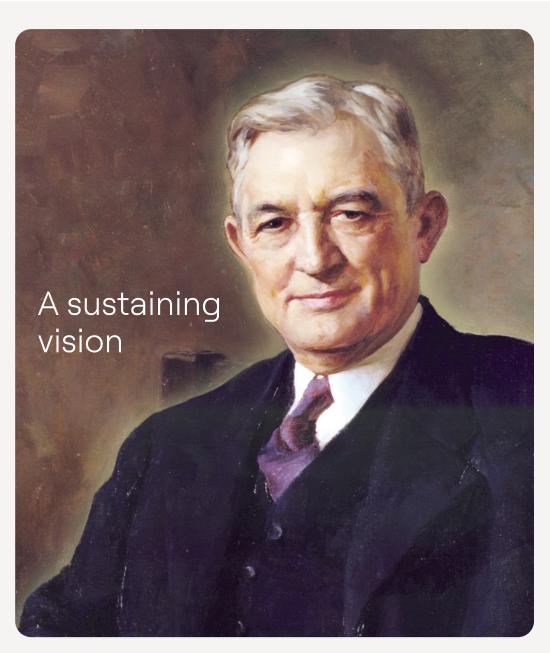


## **HVAClips**

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



# Willis Carrier



In 1902, Willis Carrier submitted his design for the first modern air-conditioning system, accomplishing a feat that was once thought to be impossible – control of the indoor environment.

His invention would give rise to a world-leading heating, air-conditioning and refrigeration company and create an entire industry essential to global productivity and personal comfort.





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