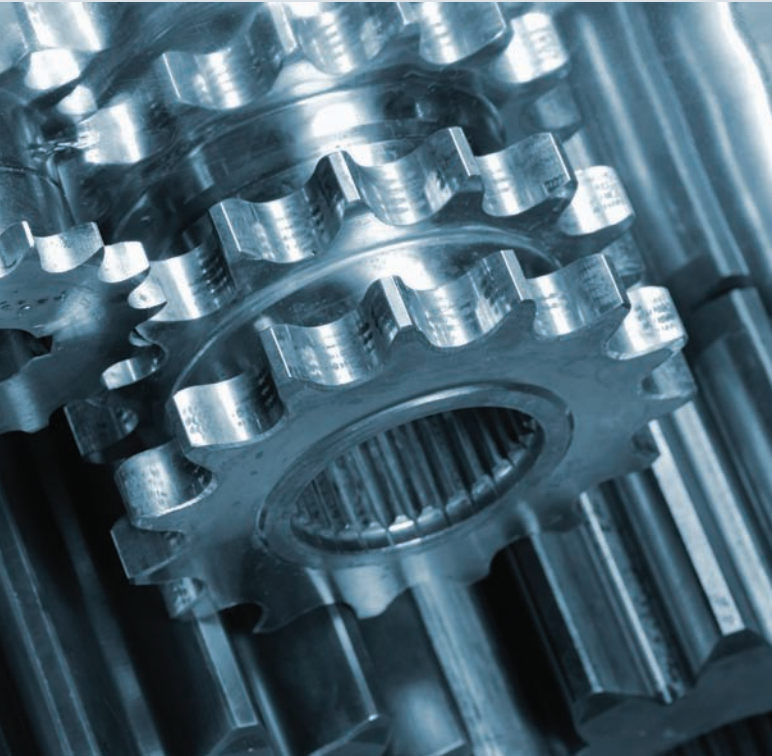




United Technologies



Carrier - experience backed by a large group

Carrier is a member of the United Technologies Corporation (UTC) which employs 208,200 people (2010), operates in more than 180 countries, and is the 37nd largest corporation in the United States (Fortune list, 2010).

The UTC group is a global technology corporation with a long history of pioneering innovation in aerospace, aviation, helicopter design, climate control, elevator design and hydrogen fuel cells. Supported by the leadership of UTC, Carrier is a source of ideas, technologies and innovation to help build a better world.



Our mission is to make the world a better place to live. A mission that was born more than one hundred years ago when Willis Carrier invented the basics of modern air conditioning and developed the first air conditioning system. Since then we have created a comfortable, productive and healthy environment, regardless of climate, and we have ensured that the global food supply is transported and preserved for safe consumption.

Our dedication to enhance our environment also means preserving the environment for everybody. Carrier was the first air conditioning manufacturer to use chlorine-free refrigerants that do not deplete the ozone layer.

For our commitment in developing products for a safer, cleaner and less polluted planet we received the prestigious Ozone Protection Award from the U.S. Environmental Protection Agency (EPA). Every day around the world a Carrier system is installed every eight seconds, and we are now the world's largest manufacturer of air conditioning, ventilation, heating and commercial refrigeration systems.

Carrier quality and reliability are incorporated and guaranteed in all products and systems. They are submitted to extensive tests before they are shipped to the customers and also certified by the major international organisations to guarantee authenticity of the information supplied, safety of the products and high process applications standards. All this means that the customer will receive a safe and reliable product.



Carrier

A United Technologies Company

The world's largest manufacturer of air conditioning, ventilation and refrigeration systems.



UTC Fire & Security

A United Technologies Company

The experts in electronic security systems, fire protection systems and security system monitoring.



Hamilton Sundstrand

A United Technologies Company

The leading supplier of aerospace systems and components, fuel and special fluid pumps, and propeller and engine control systems.



Pratt & Whitney

A United Technologies Company

The specialists in commercial and military aircraft engines and space propulsion systems.



Otis

A United Technologies Company

The world's largest manufacturer of elevators, escalators and moving walkways.



Sikorsky

A United Technologies Company

The world leader in the design and manufacture of helicopters for commercial, industrial and military use.



UTC Power

A United Technologies Company

The innovators in hydrogen-powered fuel cells for space, commercial transport and residential applications.

Natural leadership - sustainable

Pioneer in sustainability

From the very beginning, Carrier Corporation has been a natural leader. Not simply for the fact that we created an entirely new and innovative product, but because as we did so, we set the standard in environmental responsibility. At a time when sustainability wasn't on most minds, Carrier led the way. It was only natural.

Over time, Carrier helped pioneer a new industry, and then pioneered environmentally sensitive products while reducing its own impact on the environment. We recognise the responsible balance between the technology we provide today and the world we live in tomorrow.

Preservation of the environment and protecting our finite natural resources is a central tenet of our business. We have consistently demonstrated our adherence to these values by creating environmentally sound products that consume less energy and incorporate innovative materials.

Carrier is committed to reducing the greenhouse gas impact of our products through energy efficiency advancements and the refrigerants we use. Since 1994, we have led the industry in the phase-out of ozone-depleting refrigerants

while introducing many of the world's most energy-efficient heating, air conditioning, and refrigeration systems. At the same time, we've reduced the environmental impact of our operations.

Our environmental commitment extends well beyond our walls to our communities and the marketplace. Carrier is the only company in the world to be a founding member of the U.S., Argentina, China, India, Singapore and France Green Building Councils. In fact, Carrier was instrumental in launching the U.S. Green Building Council in 1993 and was the first company in the world to join the organization. Carrier's Rick Fedrizzi was the Council's first chairman, and later went on to lead the organization as president and CEO.

In 2008, Carrier was named as a formal international advisor to the China Green Building Council, having helped introduce the Green Building Council model to that country.

Today, Carrier continues to improve the environmental performance of our products, services, operations and culture to help achieve a sustainable society and protect the natural environment for generations to come.

Carrier was among the first companies to set energy reduction goals for our factories in 1988. This led to our first company-wide global environmental, health and safety goals in 1997.



From 2000 to 2010 Carrier factories reduced water usage by

30%

From 2000 to 2010 Carrier factories reduced air emissions by

60%

Ability at Carrier Corporation

“Carrier has been an environmental leader for decades, with a clear and consistent strategy.”

Geraud Darnis
Carrier President

from 2006 to 2010 Carrier has lowered greenhouse gas emissions

by **25%**

Core values

Environmental Stewardship

Performance

Innovation

Employee Development

Customer Care

Integrity

Quality

improve



sustainable solutions

Carrier measures itself in six comprehensive categories:

- Greenhouse gas emissions
- Water use
- Product impacts
- Waste generation
- Air chemical emissions
- Workplace safety

Green products and services

Carrier products turn energy into useful work. Because of their reliability and longevity, the energy efficiency of our products becomes part of our customers' environmental footprint. This motivates us to design for the environment, creating products that consume fewer resources and produce fewer emissions during manufacture and operation.

As the world leader in high-technology heating, air conditioning and refrigeration solutions, we are devoted to the advancement and application of the latest technologies. More than 2,000 scientists, engineers and technicians at research and design centres worldwide work to apply the newest technological innovations to the practical needs of millions of customers.

Carrier's energy service operations have implemented more than \$2.5 billion in energy savings at more than 2,000 sites, while our green building consulting services have helped the world's largest companies and organizations, including the Beijing Olympic Village, achieve Leadership in Energy and Environmental Design (LEED) certification.



Sustainability inside and out: our operations

As the world's leader in high-technology heating, air conditioning and refrigeration solutions, we believe market leadership demands environmental leadership. In fact, environmental stewardship is one of our company's core values. Focused on reducing the impact of manufacturing operations across the globe, Carrier has set the industry standard for environmentally sound business practices and a commitment to sustainability across our products, services, operations and culture.

On the operations side, Carrier doubled sales but held factory energy use flat from 1997 through 2005. Since 2006, the company has exceeded its commitment to reduce greenhouse gas emissions by three percent each year. In 2009, two Carrier factories joined only nine others in the world to earn the U.S. Green Building Council's LEED (Leadership in Energy and Environmental Design) rating for existing buildings – a first for the heating, air conditioning and refrigeration industry worldwide.

Energy efficiency

Air conditioning, heating and refrigeration systems require energy to operate, usually electricity or natural gas. We continually invest in research and development to expand the cost-effective energy-efficient range of our products. We do this because buildings consume about 40 percent of all energy worldwide. And according to the U.S. Department of Energy, heating and cooling account for 35 percent of the energy consumed in buildings in the U.S. In nearly every product category, we offer industry-leading, energy-efficient options for our customers.

Efficiency

Carrier's energy services operations have implemented more than **\$2.5 billion** in energy savings at more than 2,000 customer sites.

Carrier was among early leaders to launch factory energy reduction goals in 1988, and expanded to broader global environmental, health and safety metrics in 1997. In 2003, Carrier, as a business unit of United Technologies Corporation, was the first manufacturer of heating, air conditioning and refrigeration systems to join the U.S. EPA Climate Leaders programme by declaring and reporting progress towards climate change goals. From 2000 to 2010, Carrier reduced its air emissions by 60 percent and water usage by 30 percent on an absolute basis. Since 2006, the company has lowered its greenhouse gas emissions by 25 percent.

In 2008, the Montluel factory became the first industrial site in France to use 100% of its electricity from renewable sources.

Carrier implemented a new machine tool lubrication process that reduced volatile organic compound emissions by more than

80%
below the baseline

Refrigerants

Customers look to Carrier to develop sustainable solutions for refrigerants, especially given climate change considerations. Refrigerants are the gases that are compressed to create cooling for air conditioning and refrigeration. Many of these gases are chemicals with environmental impact. For decades, the industry relied on chlorofluorocarbon (CFC) chemicals as refrigerants due to their energy efficiency, safety and economic benefits. In the 1970s and 1980s, scientists began to observe that CFCs contributed to the depletion of the Earth's stratospheric ozone layer that blocks harmful ultraviolet radiation from the sun. This led to an international accord to phase out ozone-depleting substances. Carrier did not wait for international mandates to move. We introduced the first commercial and residential air conditioning systems using non-ozone-depleting refrigerants in 1994 and have since led the industry away from ozone-depleting substances.

Carrier pioneered the phase-out of CFCs for the air conditioning and refrigeration industry in 1994, two years ahead of U.S. requirements and 16 years before mandates in developing countries.

For this achievement, the U.S. EPA awarded Carrier its "Best of the Best" Stratospheric Ozone Protection Award in 2007.

Today, Carrier continues to help international markets meet new non-ozone-depleting requirements, while focusing on the next chapter of refrigerant evolution to reduce the direct greenhouse gas effect. Many of today's refrigerants are based on hydrochlorofluorocarbon (HFC) chemicals because they do not deplete the ozone layer, and compared to CFCs, have reduced the greenhouse impact by as much as 80 percent. Nonetheless, HFCs remain a greenhouse gas and Carrier is committed to finding lower global-warming alternatives. We are a leader in providing commercial refrigeration systems for supermarkets using ultra-low global-warming carbon dioxide as a natural refrigerant.

Carrier continuously invests in research and development. As we have done before, Carrier is committed to deploying products and technologies that minimize environmental impact while serving customer needs. This is equally true with refrigerants, where Carrier will have the right refrigerant solution for every application, while not every application may have the same refrigerant solution.

Sustainability inside and out: thinking ahead

Carrier is a company deeply rooted in sustainability. Beginning with our founder, Willis Carrier, our commitment to environmental responsibility has always been a large part of who we are. Yet, we understand that protecting our planet is not about reveling in the past, but focusing on the future.

As we work to develop new products, Carrier will never stray from our core value of environmental stewardship. With every innovation, we will strive to accomplish more with less in order to preserve natural resources for future generations. Our 30,000 global employees share in this dedication.

The Carrier vision will continue to look well beyond how we can improve the lives of our customers today, always considering the impact of our products and processes on tomorrow. And as our timeline progresses forward, we will fill it with a growing number of achievements that will reflect our natural leadership.

In short, at Carrier, we are simply going to keep doing what we have been doing — putting the environment first, innovation forward, and thinking ahead.



improve

buildings™

Evergreen® 23XRV
World's leading
efficiency chiller
40%
better than the
industry standard

Whether you need air conditioning for a new building or a refurbishment project, for a commercial centre, an office application or an industrial process, Carrier can offer you a wide range of solutions to meet your needs - from liquid chillers/heat pumps, fan coil solutions, air treatment/handling solutions right through to standard and tailor-made system controls.

Each Carrier solution is a global solution that guarantees optimised comfort and performance and rationalised investment. Carrier provides heating, ventilating and air conditioning solutions for optimised individual customer comfort.



Liquid chillers/heat pumps

Some of the innovative recent products are:

1998 - The first Aquasnap air-cooled chillers (40-250 kW) feature a compact design and an integrated hydronic module including pumps, expansion tank and valves for reduced installation time and component sourcing.

2004 - The Aquasnap Puron (262-802 kW) was the first air-cooled chiller in its segment to use the new environmentally sound refrigerant R410A, with market-leading full and part load efficiencies in a clean, compact design.

2006 - The Aquaforce (252-1700 kW) air-cooled liquid chiller brought another innovation - the all-aluminium MCHX condenser. This eliminates galvanic corrosion, reduces the refrigerant amount required by 30% and improves unit efficiency.

The Aquasnap and Aquaforce ranges offer the patented DX free-cooling system that provides cooling without using the compressors to offer energy efficiency ratios (EER) of up to 28 to 1.

... and for heating a range of desuperheater and heat recovery options to reclaim system heat for use in heating and for domestic hot water.

2009 - The new generation of Aquasnap chillers and heat pumps boasts increased energy efficiency and impressive new control options.

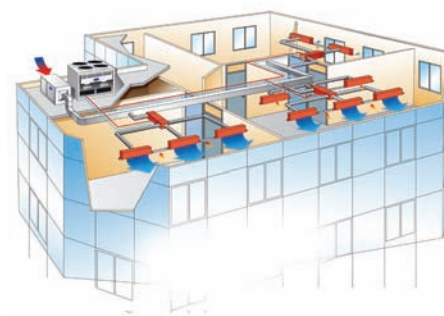
2010 - With the 61AF and 80AW/38AW Carrier launches a new series of heating products to complement the existing product range.



Fan coil solutions

The choice of the correct fan coil system depends on many factors. Carrier offers a range of fan coil solutions to match any application requirements and installation criteria: in the room, in the ceiling, above a false ceiling, in a centralised plant room, and many more.

The Carrier hydronic fan coil solutions guide compares the choices and helps customers to select the right solution for easy integration in the building and the associated air conditioning system.



Products and Solutions



This includes hydronic systems - a reliable, flexible and ecological solution to meet the demands of today's HVAC markets. All solutions allow cooling, heating, fresh air intake and a range of standard or customised controls.

The Carrier product offer sets industry standards for exceptional performance, energy efficiency and reliability, and is based on more than a century of unmatched expertise, industry leadership and innovation.



Air handling/air treatment solutions

An important aspect of any HVAC system is the correct supply of fresh air and the cleaning, cooling and heating of the recycled air that building occupants breathe. Beyond the legal requirements there are health benefits and improved productivity that result.

Carrier offers a vast range of standard and customised air handling solutions to ensure the best match to the requirements. Features include heat recovery, free cooling, variable speed and low energy consumption motors to ensure the best return on investment and minimal environmental impact.



Control solutions



Carrier equipment and system controls are available for standard system applications and customised, tailor made projects. The right choice is important to ensure complete customer satisfaction. Factors to consider include:

- Enhanced energy efficiency systems
- Easy diagnostics and maintenance
- Capability to work autonomously if the system fails
- Flexibility and upgrade possibility for life-long service in the building.

Service and maintenance

Carrier offers the most comprehensive commercial HVAC/R service schedules in the industry. Our technicians can service your chillers, roof-top units, compressors and boilers. We also provide preventive maintenance solutions to keep your system operating efficiently. We can design, replace or upgrade your equipment to optimise its performance, whether you have just one building or multiple sites nationwide.

We can assess the energy needs of your facility and install and service energy-saving solutions including micro-turbines, variable-speed drives and building automation and control systems.



Carrier has been a market leader for more than 100 years, providing customers with heating, ventilation and air conditioning systems. Throughout the world we offer a wide choice of products and systems designed for years of reliable and trouble-free operation.

With the increased focus on reducing energy consumption in buildings and related CO₂ emissions, Carrier continues to improve equipment efficiency and employs an integrated system approach for the highest overall savings. Rather than buying separate system elements we recommend to consider the system as a whole.

The greatest savings are achieved when all heating, ventilation and air conditioning components are intelligently working together, speak the same language and communicate to allow intelligent system management and optimisation according to building use and outside environmental influences.

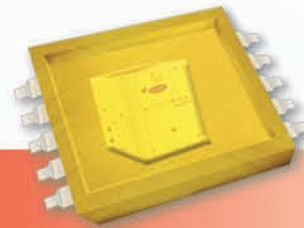
The Aquasmart system, featuring the new Touch Pilot System Manager, can control and optimise commercial HVAC applications in up to 128 zones, reducing energy consumption and providing the desired individual comfort conditions.

Aquasmart is a true ECO SYSTEM, offering considerable energy savings when compared with an equivalent traditional non-communicating system.

SYSTEM CONTROL FOR INCREASED ENERGY SAVINGS

ECO EFFICIENCY

The Aquasmart system's superior energy efficiency is the result of efficient equipment components, optimised by the Touch Pilot System Manager to complement the life of the building occupants.



COOLING AND HEATING

FREE COOLING

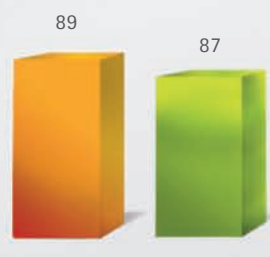
At the right outdoor conditions free cooling can substantially lower energy consumption by reducing the need for mechanical cooling.

In addition to being integrated within traditional free cooling systems, Carrier chiller ranges offer innovative integrated DX free-cooling systems to simplify the system and save space. Additional elements such as glycol, pumps and valves, used in traditional systems, are no longer necessary.

HEAT RECOVERY MEASURES

Heat recovered from the building can be reclaimed for applications requiring hot water, such as comfort heating or sanitary purposes.

Carrier offers a range of heat recovery options, including desuperheaters and heat recovery condensers. These can contribute to reduced heating energy usage or in some cases replace components that use alternative fuels.

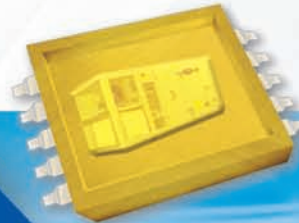


⊖ 2 kWh/m²/year*

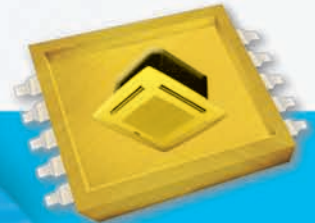
* Source: Simulations made using Carrier's Hourly Analysis Program (HAP). Savings quoted are influenced by factors including building type, use and geographical location.

AQUASMART

A COMMUNICATING SYSTEM WITH OPTIMISED CONTROL AND INTEGRATED EFFICIENT COMPONENTS



AIR TREATMENT PLANT



COMFORT DISTRIBUTION

VARIABLE WATER FLOW

Most applications only experience full-load design conditions for a few days each month and do not continuously require full design water flow. As an alternative to constant-flow applications Carrier offers integrated variable-speed pumps with reduced water flow at part load conditions. The reduced pump motor energy consumption at part-load conditions – most of the time during the year- results significant energy savings.



⊖ 8 kWh/m²/year*

DEDICATED HEATING HEAT PUMPS

Carrier has introduced a new generation of heat pumps, designed for heating applications. They deliver superior energy efficiency, hot water at temperatures of up to 63°C and allow operation at outdoor temperatures down to -20°C.

Replacing traditional heating equipment with heat pumps in hydronic systems can lead to substantial energy savings.

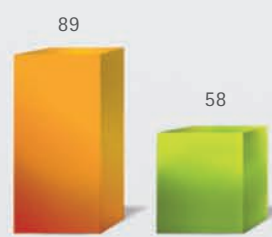


⊖ 36 kWh/m²/year*

VENTILATION AND HEAT RECOVERY

Air treatment plants play an essential role in the indoor air quality of buildings, as they provide occupants with fresh air and remove volatile organic compounds from the occupied space. An air handling plant with heat recovery technology allows waste heat in the extracted air to be reclaimed, considerably reducing heat loads.

Night-time free cooling can further decrease system demands and energy consumption.

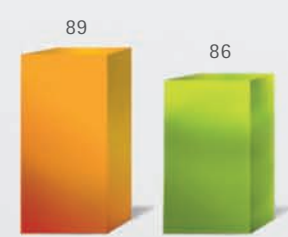


⊖ 31 kWh/m²/year*

WATER TERMINALS (EC MOTORS/VARIABLE FAN SPEED)

The use of terminals with electronically commutated (EC) motors results in improved motor efficiencies (<90%) and enhanced variable fan speed control.

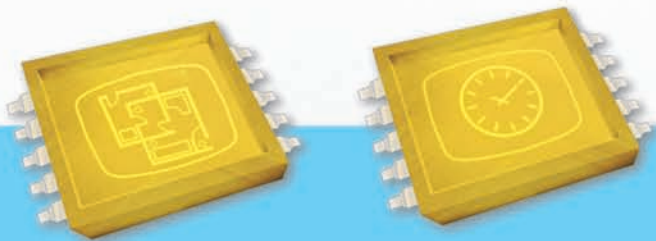
By better matching space loads at part load conditions, unit power consumption is reduced and improved air distribution and sound attenuation enhance occupant comfort.



⊖ 3 kWh/m²/year*

ECO MANAGEMENT

OCCUPANCY-BASED CONTROL TO ELIMINATE WASTE



ADAPT SYSTEM OPERATION TO MATCH SPACE AND TIME

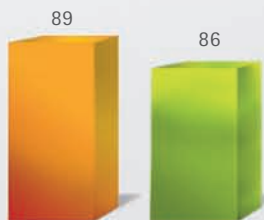
ZONE MANAGEMENT

Grouping similar areas in a building into zones will ensure a coherent and consistent system performance in these zones. Buildings may be zoned according to use, orientation or activity. Examples include offices, meeting rooms, print facilities and IT rooms. Control and adjustment of zone comfort conditions will help building owners and tenants to cut back energy consumption and save energy.

SCHEDULING

Control and optimisation of the HVAC system operation to complement building activity will save energy - delivering the right conditions at the right time. Occupancy-based control with programmed comfort set points and intelligent start/stop system operation to match occupied and unoccupied periods can significantly reduce energy usage.

The Aquasmart Touch Pilot can be used for normal and holiday scheduling.



3 kWh/m²/year*

ECO INTELLIGENCE

ECO SYSTEMS GUARANTEE INTERACTIVE INTELLIGENCE

THE ECO SYSTEM



A COMMON LANGUAGE

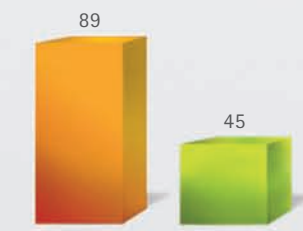
All system components - the chillers or heat pumps, the ventilation system control and the water terminals - need to speak the same language. The Touch Pilot System Manager ensures effective communication of actual and desired space conditions for efficient economical HVAC system control.

CENTRALISED MANAGEMENT

The central Aquasmart Touch Pilot manages all system components so that building owners and users can ensure maximised energy reduction at ideal comfort conditions for building occupants.

OPTIMISED ECONOMIES

The Aquasmart Touch Pilot matches the system operation to meet the building requirements, where needed, when it is needed and as much as it is needed. This lowers energy consumption and optimises system performance. The combination of zone control, operating schedules and optimised unit-by-unit operating parameters can achieve maximised savings.



⊖ 44 kWh/m²/year*

Carrier Service



A full range of building and HVAC service options

When any building's equipment or controls service is relegated to an emergency response, business is at risk. Service is a year-round necessity in order to optimise efficiency, save money, help you make sound management decisions and free you from the anxiety of unplanned downtime. When you partner with Carrier, you ensure that critical comfort needs and regular service requirements are met, and you avoid adverse consequences of neglect.

Carrier Corporation makes it easy for you to select a level of ongoing service that's right for your operation. We are one of the best-trained service providers in the industry, with required ongoing factory, safety and ethics trainings for our personnel.

Carrier technicians are highly skilled in all building systems assessment. They have access to advanced diagnostic tools analysis software, which will quickly and accurately evaluate your entire infrastructure and identify opportunities for improvements and cost savings. And our technicians can service equipment from any manufacturer.

Benefits at a glance

- Comprehensive HVAC system evaluation – overall performance as well as individual chilled water and airside components
- Remote monitoring for ongoing performance tracking and system adjustment
- Enhanced comfort to preserve facility productivity and tenant retention
- Cost-effective system improvement to increase profitability and enhance asset value
- Proactive system upgrades to minimize risks associated with emergency repairs and system failures
- Expert assessment and guidance for replacement of selected components to avoid large capital expenditures
- Energy conservation strategies to reduce costs

Maintenance solutions

Carrier offers a broad range of maintenance solutions for all brands of rooftops, chillers, split and VRF air conditioning, air handling units, controls and accessories.

Carrier's service agreements are tailored to meet the budget and operating needs of your facility and can include both preventive maintenance to keep your equipment running in peak condition and predictive maintenance services to identify potential problems before costly breakdowns occur. The optional Carrier remote monitoring is like having an expert service technician on-site, watching your equipment 24 hours a day, 7 days a week.



Emergency service and repairs

Why not have your equipment repaired by those who know it best? Carrier Service takes pride in our fast response time when helping you with your emergency needs.

Our factory-trained service technicians use the latest diagnostic equipment and are able to perform adjustments or repairs on Carrier equipment as well as all other brands of Heating, Ventilation, Air Conditioning, and Controls equipment and systems. With Carrier as your partner, you can be confident that all repairs are done correctly.



Optimisation and modernisation

Carrier Service can show you how efficiency equals savings: Your chiller or heat pump may be running, but is it running as it is supposed to do? The Carrier Performance Analyzer tool has been developed to answer exactly this question. Our experts make real-time measurements on your equipment and make proposals on what can be improved so that you can get the most out of your equipment and protect your bottom line.

Carrier can help you to:

- Comply with new legislation
- Improve the operation and reliability of your equipment
- Reduce running costs through Carrier's energy-saving, high-efficiency products and controls
- Explore building automation and energy management solutions with our experts

Parts

We offer new and remanufactured compressors, a wide range of popular consumables, essential tools and genuine manufacturer's replacement parts - all with the support of the industry expert.

- Fast response
- Expert technical support with factory back-up
- Attractive prices
- Express delivery possible
- Large stocks and choice of brands