



Air quality and energy efficiency







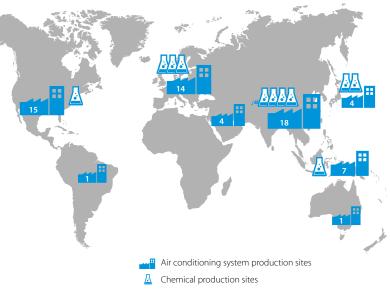
About us Daikin has been a worldwide leader in air conditioning systems since 1924

A company that is one of a kind

Daikin is the only manufacturer involved in all the stages of production, marketing and maintenance of a broad line of air conditioning products. It manufactures its own compressors and conducts research on the chemicals and refrigerants it uses.

Our staff of experts find ways to meet the needs of every type of region, climate and culture, by providing ways to regulate the four elements of air: temperature, moisture, flow and cleanliness.

We do business and are actively involved in more than 150 countries around the world, which not only offers numerous advantages in terms of sales and manufacturing, but also allows us to understand the needs of our clients and the desires specific to each region, and thus plan for them in advance.



Daikin has high-level corporate values

Organisation

Our vertical organisation is Daikin's guarantee of quality

The fact that we control 100% of our production is Daikin's guarantee of quality. All the key components of Daikin products come from our own production plants, which are regularly subjected to rigorous Quality Certifications. This practice early on enabled us to direct our production towards systems that are more environment friendly, from design to use, whether in terms of manufacturing, distribution or installation.

ISO norms

Daikin's efforts in the environmental field and the importance the group grants to client satisfaction also mean obtaining certificates for the **ISO 14001 and ISO 9001** norms at all of our sites.



This double certification process unites all Daikin Airconditioning France employees around a common objective: to improve our corporate structure to make client satisfaction the heart of our business plan and faithfully implement good environmental practices. The sign of a commitment to continuous progress, this environmental quality certification also reflects the responsibilities of a corporate citizen that is attentive to the effects of its business operations.

Products

Daikin offers the largest line of systems on the market

Residential, small or large tertiary, industries, etc. Whatever the projects you submit to us are, there is a suitable match in Daikin's product line. Daikin products are among the most innovative and most efficient in their sector. Every year, Daikin makes every effort to develop systems that comply with regulations and suit the needs of our clients, who are ever more demanding, especially in terms of energy costs and environmental standards.

Services

In order to provide greater flexibility and efficiency in planning its interventions, Daikin has set up a single entry point called "Service Contact", that is designed to analyse every request for intervention and ensure its scheduling. Thus, our regional sites focus on the operational factors in order to assure you get high-quality interventions.

Environment

Protecting the environment is a mandate for all of us

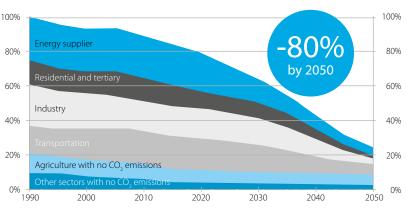
For Daikin, minimising the effects of its business operations on the planet is not a problem, but rather a prime opportunity. Eliminating fluids that are a threat to the ozone layer, collecting and recycling refrigerants, reducing plant energy use, etc. mean that Daikin has set the bar very high with an ambitious environmental policy.

2050 environmental vision Zero CO₂ emissions objective

Daikin has come up with a 2050 Environmental Vision where the goal is to contribute to the long-term resolution of worldwide environmental problems that are getting worse and worse. In the interest of reducing to zero our net CO_2 emissions, we are defining objectives and taking actions every five years as part of our Fusion business management plans.

The importance of energy efficiency

- > The EU has produced a roadmap to achieve up to an 80% reduction in greenhouse gas emissions by 2050.
- > That roadmap seeks to obtain a 40% reduction in emissions by 2030 and an 80% reduction by 2050.
- That includes reducing the emissions of energy suppliers, and of residential, tertiary and industrial systems.
 Reducing product energy use, along with increasing the use of renewable energy sources, are key actions.
- > The emissions that stem from refrigerants are low, but measures have already been set up to reduce their effect.



EU roadmap to promote a low carbon emission economy

We have created products and services that are extremely efficient in terms of the environment, via:

- > The promotion of energy efficiency using techniques such as our Inverter technology
- > The adoption of R-32, R-1234ze, R-513a and other low GWP refrigerants, the development of new-generation refrigerants, and the promotion of heat-pump technology
- > The reduction of the environmental impact of our materials over their entire life cycle, from procurement to final disposal and recycling

Daikin's 2050 Environmental Vision

Through

products

We are ensuring that healthy and safe environments are achieved, while making every effort to reduce our net CO₂ emissions to zero.

> Through the power of air

We have created environmental solutions, via:

 The use of energy management to achieve optimally efficient operation via a system that incorporates the air conditioning units, the heat pumps, the refrigeration apparatus and their peripheral devices, the buildings and renewable energy sources
The recovery and recycling of refrigerants

The creation of an air value, with:

- > The development of ambient conditions that protect people's health from air pollution
- > The creation of added value by improving air quality, in offices and residences, for example

F-Gas regulations: Daikin systems with low GWP*

In order to plan for future mandates on the use and handling of refrigerants, Daikin offers the best solutions on the market in terms of fluids. Thus, whatever the type of technology used in Daikin equipment, we propose refrigerants with the lowest GWP ratings, such as:

Through

solutions

- > **R-32** (GWP: 675)
- > R-1234ze (GWP: 7)
- > R-513A (GWP: 631)

*GWP = Global Warming Potential

EEC provisions: we assist you with your project

Whether a tertiary or industrial application is involved, the efficiency of Daikin equipment allows you to maximise the Cumac kW cumulation. A few examples of EEC certificate eligibility:

- › Floating HP
- > Floating BP
- > Heat recovery
- > Motor speed variation
- > Motor-regulated systems
- > High-efficiency condenser





Why choose Daikin?

Whatever your projects that require equipment or your needs in terms of climate control, chilled water and hot water, we have a system that will meet your needs and that has already proven itself in many situations: plastics processing, chemicals, electronics, food production, laboratories, warehouses, etc.

Our development of rigorous compressor/refrigerant combinations that are fully compatible has enabled Daikin to produce complete lines of chilled water units that are technologically maximally efficient and operate using the latest generation of refrigerants: R-1234ze, R-32 and R-513A.

Due to their incorporation of advanced technology, Daikin chiller units are the "cat's meow" in terms of flexibility of use and regulation. Characterised by an excellent level of precision, an ideal power level, quiet operation, simplified maintenance and reduced operating costs, they are the ideal systems for a totally controlled environment and production process.

Daikin produces its own compressors and refrigerants, which gives it complete control over the production phase. Its full line of high-quality air handling units entirely complies with presentday requirements for interior air filtration and enhanced insulation standards.

It is this combination, one of a kind, of advanced technology, experience and reliability that makes Daikin the absolute best choice for any business in search of a long-term solution.

A truly unique climate-controlled chamber!



Our climate-controlled chamber is designed to test, under the most extreme conditions, air and water based chillers, both in heating and chilling modes, as well as various other configurations (heat recovery, free cooling, 4 tubes).

Cold and heat production Daikin is a pioneer in inverter technology

It has the largest and most flexible line of liquid chillers and heat pumps on the market





16 - 90 kW

EWAA-DA 11 - 16 kW



NI D



EWWH-J 90 - 290 kW

FWAT-B-C

80 - 1012 kW



EWYD-4Z B 400 - 800 kW



EWWH-VZ 330 - 2070 kW



150 - 1100 kW





EWAH-T-TZ C 670 - 2100 kW





750 - 9,000 kW



DWTC 10,500 - 21,000 kW

21.000 kW

8 kW

13 - 192 kW

We develop and produce our own compressors

In contrast to many other manufacturers, Daikin produces its own compressors. This is a critical point since a compressor is the core part of any system. Daikin, always out in front in compressor technology, now offers a full line: Swing, Scroll, screw-driven and centrifugal.

In 2007, based on its experience, Daikin was the first manufacturer to offer VSD (inverters) incorporated into its single-screw compressors. That technology is now applied to our entire line, providing enhanced levels of comfort and efficiency.

Daikin Inverter Single-Screw Compressors

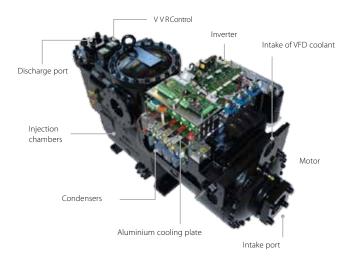
- > SEER values up to 5.7 for air and 9.3 for water
- > SEPR values up to 8.5 for air and 11.3 for water





INVERTER

 An inverter incorporated into the compressor and cooled by the refrigerant (no risk of overheating when air temperature increases)



Reducing operating costs

Energy recovery (options no. 01 & 03)

For applications that require heat while cooling is under way, our heat recovery options serve to produce heat free of charge, or nearly so, for other needs at your site.

Free Cooling (option no. 113)

For cooling applications when the ambient air temperature falls below the chilled water set-point of



temperature falls below the chilled water set-point of the machine, part or all of the water goes through the free cooling system, thus allowing the compressors to shut

down, thereby substantially reducing energy use (by up to 75%). Efficiency coefficients of up to 30 kW/kW can be achieved in free cooling operation.

Fast restart (option no. 110)

If there is a power outage, the unit can be restarted in 30 seconds after power is restored and ramp-up to 100% load in less than 3 min. (usually, some 20 minutes are required to reach full load).





Air handling and filtration Technical choices to achieve maximum efficiency

All of our units are developed for maximum output. Heat exchanger surface areas, motor efficiency, filtration, insulation, friction reduction and load loss reduction for the air inside the AHU are some of the most important factors we have taken into account when developing our equipment. We thus offer you a product ready to be easily incorporated into any system at all, and capable of providing major energy savings.



Daikin D-AHU-professional

This is a fully customizable AHU range to meet all the customer needs even for high demanding application such as industrial process. Professional range in hygienic version is VDI6022 and DIN1946-4 certified.





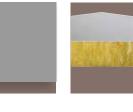
Exterior panels Rust-proof paint RC5 class (EN 10169-2)



Panel internal joints Antibacterial seals between panels and frames



Interior panels Grade 304 stainless steel or pre-coated Stainless steel floor alone available



Panel insulation

Thickness: **42 or 62 mm** Rock wool: **120 kg/m³**

Smooth interior angles Rounded-off angle chamfers Cleaning made easy



Frames Anodised aluminium Interruption of thermal bridges

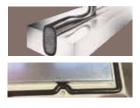
Battery condensates tray

Expanded tray with maintenance access

Grade 304 stainless steel, multi-slope tray



Door seals Continuous fluid gasket to ensure a complete seal



Chilled water fan coatings White hygienic paint Makes cleaning easy



Efficiency services and monitoring Management of the life cycle of your facilities

How can Daikin help you guarantee the long working life and efficiency of your facility?

We offer you a set of solutions to ensure the reliability of your equipment, while also helping limit your energy expenses over the long term. These solutions include plans for maintenance, monitoring of your facilities, consumption monitoring and customdesigned options.

Maintenance plans and services

Builder maintenance visit contract

By means of a customised maintenance visit plan, your equipment will always be up to date and have the best performance levels. An operational status report and recommendations for preventive maintenance are produced directly on site. By means of such services, we also aim to increase our presence at your side and strengthen the relationship between the builder and the maintenance company.

Close-up on spare parts

There is no such thing as a zero risk of failure for machine parts, even with a tailored maintenance plan.

In order to alleviate that risk, we have a substantial stock of spare parts and provide quick delivery. Every year, we handle more than 70,000 requests and provide delivery within 24-48 hours.

Warranty extensions on new equipment

Daikin also offers warranty extensions for parts and labour. This service offers you maximum peace of mind over time. It is not a replacement for a tailored maintenance plan, but rather a supplement to it. It allows the operator to easily deal with the replacement of a part for their facility over time. Unforeseen events are thus minimised and the operator's business operations are consequently not disrupted.

Assistance with compiling a DESP file (French regulations for equipment under pressure)

Daikin gives you every assistance for the recertification of your machines by providing its expertise and making the required technical documentation available.



Leasing of units - Daikin Rental Services

- > Emergency back-up cooling and heating systems
- Emergency back-up cooling for critical applications and processes
- Cold production during a scheduled shut-down or in the event of a break-down
- > Solutions for load variations and special events



Auditing of your equipment

This service consists of an overall check-up of your facilities. It is done together with an analysis of your needs. We check your entire facility and focus in particular on the preventive maintenance done on your machines. The purpose of this audit is to ensure that the condition and operation of your facilities meet your expectations and comply with our recommendations. We produce a list of the various items checked. We then provide conclusions and recommendations on works to be done. The purpose of those works is to upgrade your heating or air conditioning system and make it maximally efficient. The audit report allows our departments to understand your needs

and advise you on how to get the most efficiency and value out of your equipment.

Option: A seal certification (F-Gas) can be issued.

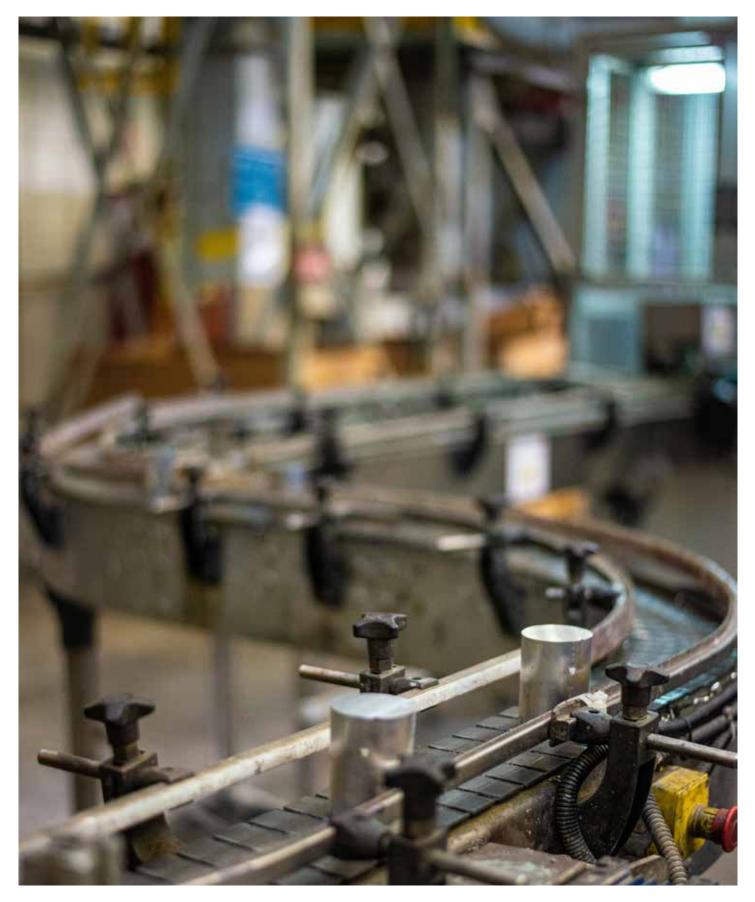


Daikin On Site

Remote management and monitoring of your facilities by Daikin

- This decreases the down-time of your facility and reduces malfunctions
- > It provides the greatest efficiency and reduces energy waste
- > It increases the working life of your facility and prevents wear and tear
- > You get information about how to best operate your equipment with advice from a Daikin expert.





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Daikin Europe NV participates in the Eurovent Certified Performance programme for Fan Coil Units and Variable Refrigerant Flow systems. Daikin Applied Europe S.p.A participates in the Eurovent Certified Performance programme for Liquid Chilling Packages, Hydronic Heat Pumps and Air Handling Units. Check the on-going validity of certificates: www.eurovent-certification.com

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