



Data Center Solutions

Powering Data Centers with Smart HVAC Solutions



Free cooling chillers

Compact free cooling chillers up to 2.150 kW

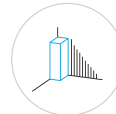
The chiller portfolio includes screw compressor units equipped with variable frequency drives (VFD) designed and manufactured in-house and mounted onto the compressor for better reliability and efficiency. Thanks to VFD, precise modulation of cooling loads is allowed, with capacities up to 2.150 kW and scroll compressor chillers with capacities up to 1.344 kW.

Despite their large cooling capacities, the Daikin products are compact, which allows them to be fitted in restricted areas. This is specifically true for free cooling units with a configuration that does not exceed the unit footprint.

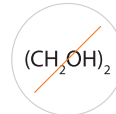
Daikin offers different types of free cooling, including **glycol free** systems. Dedicated data center configuration includes an **integrated active harmonic filter**, directly into the unit's electrical panel to keep compactness.



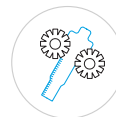
Free cooling for lower operating costs



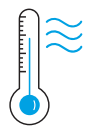
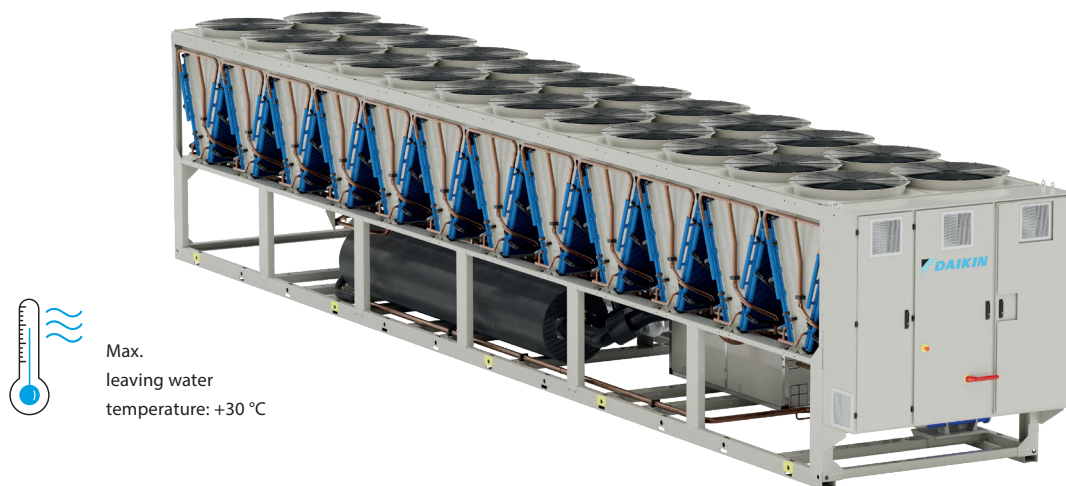
Compact footprint combined with large cooling capabilities



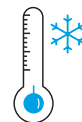
Glycol free, free cooling options



VFD screw compressor for improved reliability and efficiency



Max.
leaving water
temperature: +30 °C



Min. ambient
temperature:
-30 °C

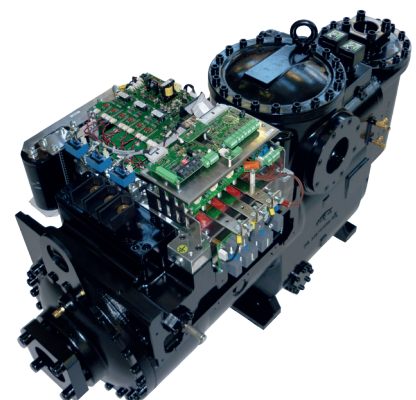


Max. ambient
temperature:
+55 °C

Our chillers' heart

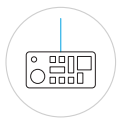
Daikin offers technology that is designed to be extremely reliable and durable, even in harsh environments. That is the case of the VFD screw compressor by Daikin, **designed and manufactured in-house** and mounted onto the compressor for better reliability and efficiency. It differentiates from other screw compressors for providing greater energy efficiency thanks to the optimised screw design and the integration of a specifically designed VFD.

This integration allows the compressor to perfectly match the different load requirements of the data center, through the capacity control of the compressor, resulting in outstanding part load efficiency, and thereby **low PUE** and low operating costs. On top of this, VFD and the integrated active low harmonics filter are both refrigerant cooled, further enhancing reliability, especially for those applications in extreme ambient conditions, where traditional air-cooled VFD would not be the best option.

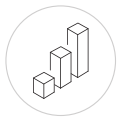


Intelligent Data Centre Manager control system

Unlike a traditional external controls system, Daikin's integrated iDCM requires 40% fewer sensors. This allows the iDCM to make use of all unit data from the integrated unit sensors and controller.



Controls up to 20 chillers per single panel, including Primary pumps management and free cooling mode



Available in 5 sizes ensuring easy system configuration



Advanced machine learning algorithms and AI for optimal operation and energy savings during the chiller plant lifetime



iDCM is fully suitable for TIER III Data Centres and as a customised execution for TIER IV

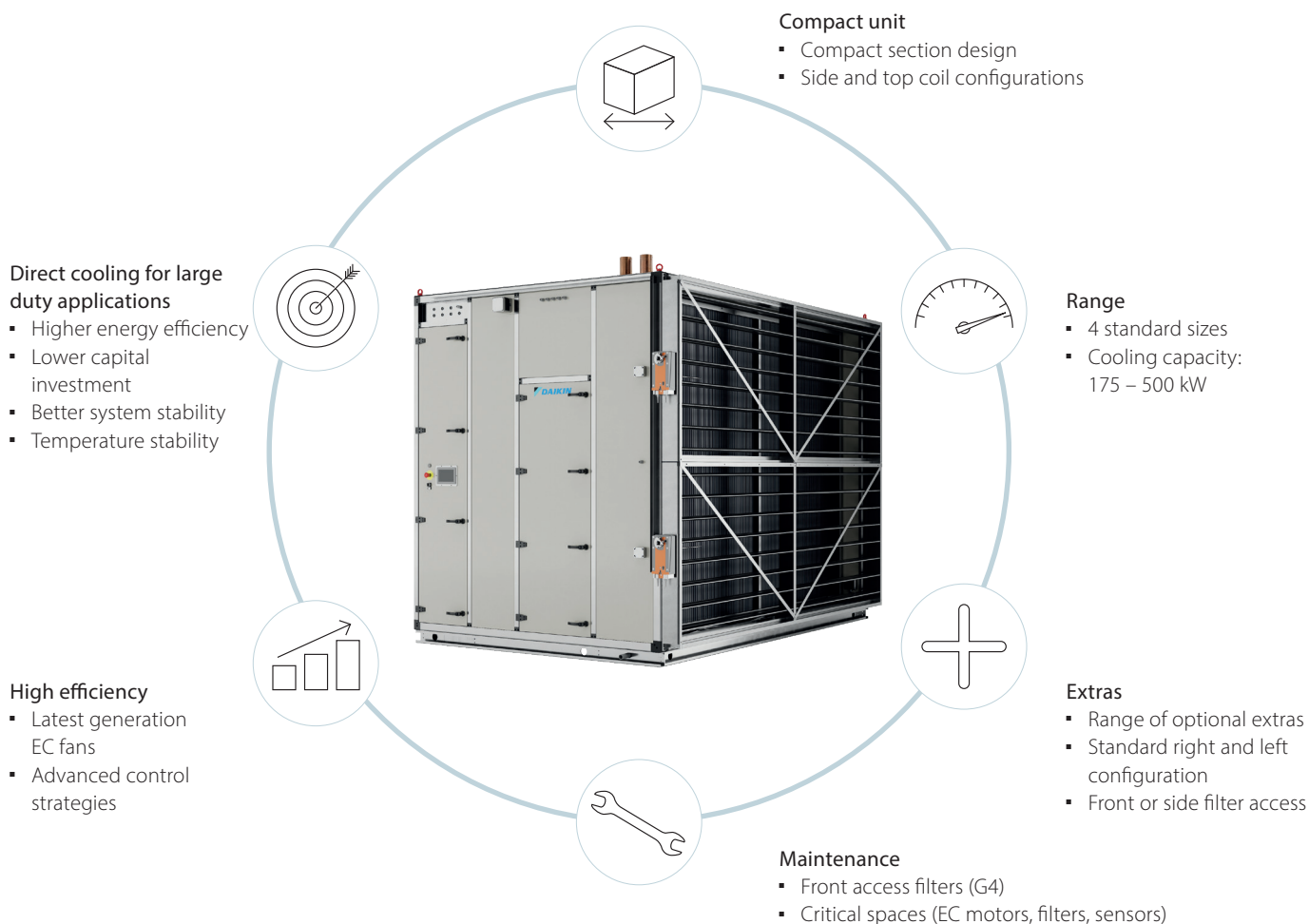


Key features of Intelligent Data Center Manager

- 1. Comprehensive solution:** Controls up to 20 units, ensuring reliability with advanced machine learning algorithms for optimal chiller operation and energy savings.
- 2. Compatibility with Plant Design:** Integrates various devices and offers comprehensive customer support, ensuring flexibility and tailored solutions for different project designs.
- 3. Complete System Integration:** Daikin's in-house control system maximises efficiency by integrating unit logic, enhancing reliability and stable temperature control.
- 4. Smart Sequencing:** Uses machine learning to optimise unit combinations, ensuring the lowest energy consumption and adapting to load changes.
- 5. AI optimised operation:** Monitors unit parameters to prioritise efficient machines, reducing downtime and extending equipment life.
- 6. Optimised Operating Modes:** Ensures high efficiency in both standard and free cooling modes, dynamically adjusting based on real-time conditions.
- 7. Cost-Effective Control:** Reduces installation and maintenance costs with integrated performance monitoring and fewer sensors, enhancing overall value.
- 8. Scalable Solution:** 5 different iDCM sizes available for various unit counts (from 4 to 20), providing a cost-effective and adaptable control system for any data center.

High efficiency fan array units

Meet the Pro-W. Our dedicated data center Computer Room Air Handling (CRAH) units are designed for large and hyperscale requirements – complete with chilled water coil, advanced controls for real-time demand and cooling capacity **up to 500 kW**.

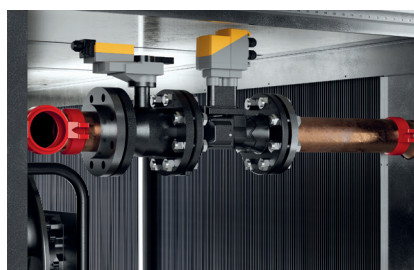


Plug and play!

Air filters, control panel, UPS, fan array, cooling coil (up to 8 rows) and dampers are integrated according to your needs in an aluminium anodised profile casing on a hot deep galvanised base frame. The whole module is pre-tested and ready to use.

Controls

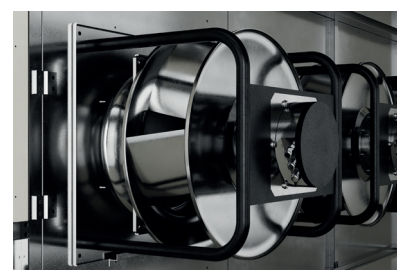
that meet large and hyperscale data center requirements



Pressure independent control valves (PICV)

for a stable flow rate, improved temperature control and energy efficiency, reduced total start-up time and maintenance. Supplied separately or integrated.

Daikin EC fans with state-of-the-art efficiency and redundancy can be adjusted to your needs.



Pro-C CRAH

The Pro-C unit is an ideal solution for thermal management, featuring third-party certified performance.

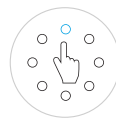
Efficiency is one of the key aspects achieved thanks to the product's main features, such as optimised chilled water heat exchangers, the latest generation of EC fan, and the integration of pressure-independent control valves and active harmonic filters. Advanced control solution strategies and automatic transfer switches guarantee reliability and prevent any power failure.



Wide cooling capacity range from 30 kW to 250 kW



Advanced controls strategies developed by Daikin, ensuring reliability and efficiency.

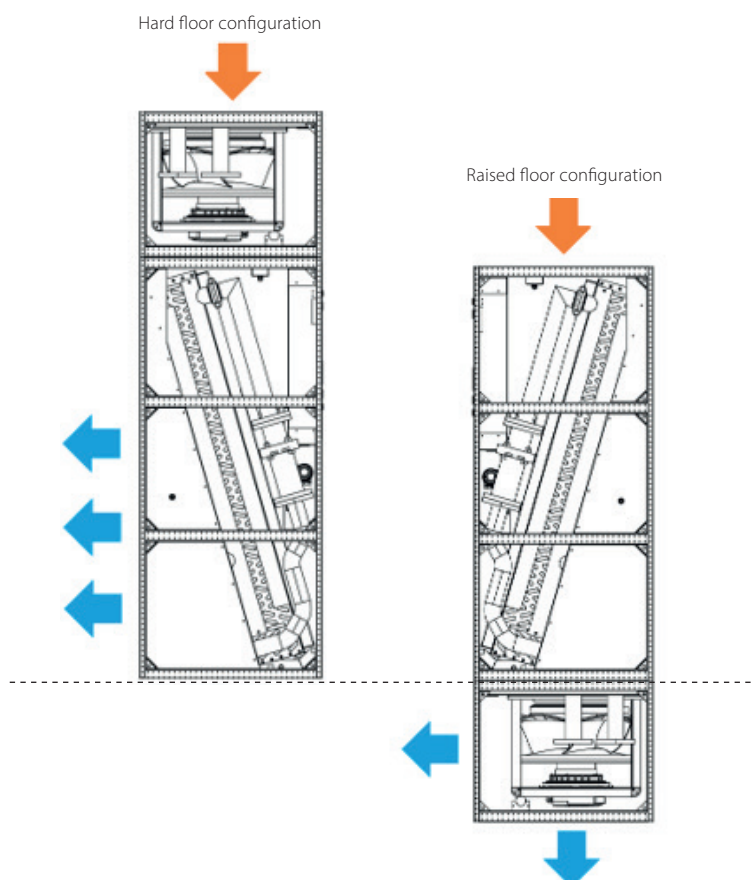


Wide list of accessories for all project requirements



Flexible and modular design suitable for any data centre layout and requirements.

Versatile airflow



Features of the Pro-C

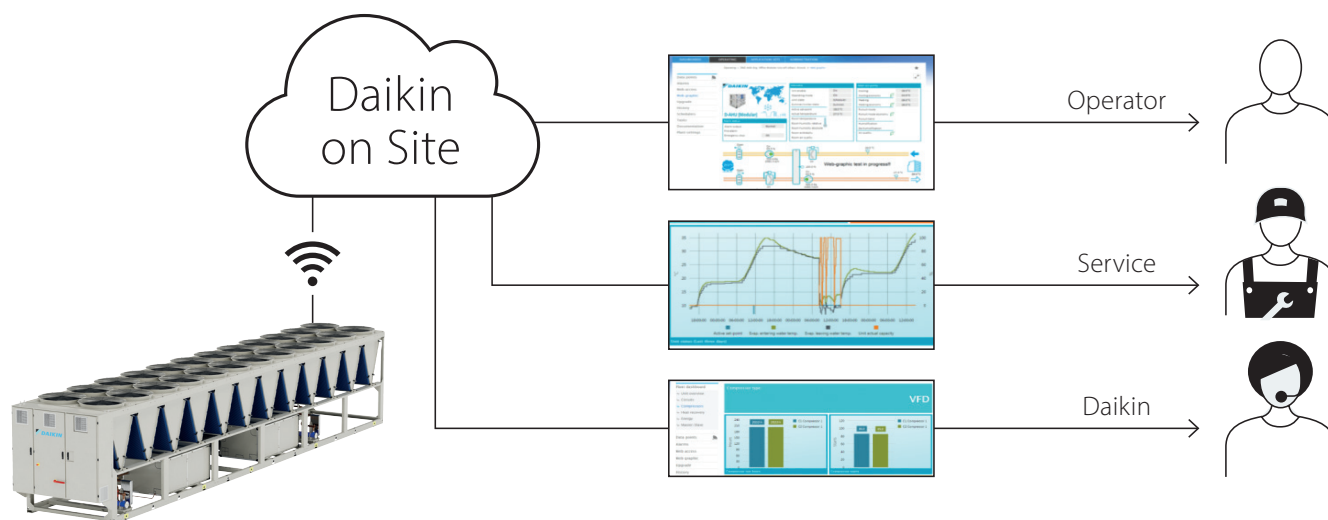
1. **Flexibility:** The modular design suits all Data Center needs, with configurations for hard and raised floors. It optimises energy efficiency by recovering heat from expelled air.
2. **Optimised Heat Exchanger:** Efficient part-load operation focuses on sensible heat exchange, preventing condensate formation and adapting to free cooling chillers for higher efficiency.
3. **EC Fan with PFC:** Brushless DC motors match cooling load dynamically, reducing energy consumption and improving efficiency with active Power Factor Correction.
4. **Pressure-independent Control Valves:** Ensures stable water flow and better temperature control, reducing operating costs and enhancing system efficiency.
5. **Advanced Control Strategies:** Daikin's control systems optimise performance, provide redundancy, and adapt to evolving trends, ensuring reliable operation.
6. **Equipment Protection:** Automatic transfer switches and ultracapacitors ensure continuous operation during power failures, with quick fan activation.

Top class after sales services

Wherever your data center may be, we are there, too. With a worldwide service and partner network, with over 13.000 employees in Europe, there are more than enough resources to cover all your needs.

Daikin on Site – our cloud platform services for maximum system stability and performance

Daikin on Site is a cloud-based remote monitoring and control system that provides 24/7 real-time data, monitoring the operations of cooling plants and their proper functionality. It also provides periodic reports for in-depth plant analysis, energy analysis and intelligent maintenance. This continuously evolving service enables plant owners to keep the system efficiency high, take preventive measures and avoid the additional costs associated with breakdowns and downtime.



6 Key Strengths of Daikin

- 1. Preventive Maintenance Plan:** Reliability over time with a detailed plan based on Daikin's 55 years of chiller technology experience, covering all necessary field activities and component checks.
- 2. Extended Warranty:** The standard one-year warranty is extendable up to four additional years, providing greater security and peace of mind for customers.
- 3. Global Service Availability:** With sales offices in over 170 countries, Daikin ensures service availability and expertise wherever and whenever needed, tailored to customer protocols.
- 4. Spare Parts Management:** Timely and professional supply of maintenance parts, with the option to manage spare parts stock directly at the customer's premises for simplified maintenance.
- 5. Comprehensive Maintenance Services:** Preventive and corrective maintenance, retrofit solutions, and upgrades to extend equipment life, to improve performance, and ensure consistent reliability.
- 6. Daikin on Site (DoS):** Cloud-based remote monitoring service offers real-time assessment, reporting, and intelligent maintenance to proactively prevent failures and minimise associated costs.

Rental Solutions

Daikin Rental is offering chillers, heat pumps, air handling, and power, to meet your temporary cooling needs while reducing CAPEX and optimising your OPEX. The Daikin Rental team is available 24/7 to address any situation.



Cooling load fluctuations

Facility expansion

During facility expansions there is a need to test and adjust equipment, but not sufficient load to keep new or large chillers running. A simple rental solution ensures the correct load and energy efficiency while the expansion new build is being finalised.

Peak load support & seasonality

When the cooling demand of your facility exceeds your system's capacity due to high temperatures or changes to the cooling requirements, Daikin temporary cooling can be used to increase your cooling output and you save on capital expenditures.



Emergency rentals

Daikin Rental Solutions quickly responds on equipment failures. Our team of experts stands ready to assist you every step of the way.



Standby cooling

A temporary cooling system is used to back-up critical cooling, or when system redundancy has been reduced.



Contingency plan for chiller breakdown

- Quickly restore normal operations
- Minimise financial losses and downtime
- Peace of mind during unexpected events
- Replacement of older equipment
- Our plans are designed to handle financial risks and ensure the right equipment size



Circular Economy



At Daikin, the future of the world's indoor air is our greatest concern. Daikin envisions a world with healthier indoor air while reducing our environmental impact. Driven by a dedication to achieve net zero CO₂ emissions by 2050, we provide safe, healthy and comfortable spaces throughout the building life cycle using world-leading technology.

Since 2019 Daikin is offering VRV, chillers and heat pumps under the L∞P by Daikin circular economy initiative – a line of products using reclaimed refrigerant. By choosing such a product you actively support the reuse of refrigerant.

We are reclaiming R-410A, R-134a and R-32 refrigerant. Let's avoid the production of over 400,000 kg of virgin refrigerant every year and save 3,590 tonnes of carbon emissions. Together, we can create a healthier planet for future generations.

Daikin's dedicated data center air-cooled chillers are available in L∞P by Daikin version. Are you refurbishing a data center? L∞P by Daikin enables you to allocate your existing refrigerant to your new Daikin chillers. Create your own circular approach with L∞P by Daikin.

Your partner on a global scale

You need a reliable partner who supports you at every stage - from initial consultation and system design to rapid delivery, seamless installation, intelligent controls, rigorous testing, ongoing maintenance, and expert support for any challenge that arises. And you need that partner now.

You need Daikin. With a century of expertise in cooling, a workforce of over 96.000 professionals worldwide, and a vast network of specialists, we deliver cutting-edge solutions at scale. With 110+ manufacturing facilities across five continents, extensive production capacity, and a highly adaptable product portfolio, we meet the demands of even the most critical applications - including data centers.



For technical rooms and smaller facilities, check out our dedicated Sky Air technical cooling catalogue.

Daikin references for data centers

Daikin has the knowledge, experience and technology to support complex hyperscale and colocation data center projects. Our largest data centers supplies per region are detailed below.

Region	Highest cooling capacity per project
Europe	115 MW
Middle East & Africa	61 MW
Latin America	40 MW

> 110
production bases

20.000
active patents

€ 3,4

billion invested in R&D



> 96.000
employees worldwide

> € 25
billion in net sales

> 170
countries – operations
across the globe



OSL-Hamar Green Mountain hyper-scale Data Centre, Norway.



Scan the QR code
to get more information about our data center offerings

Daikin Europe N.V. Naamloze Vennootschap Zandvoordestraat 300 · 8400 Oostende · Belgium · www.daikin.eu · BE 0412 120 336 · RPR Oostende (Publisher)



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