

Daikin adds Compact L and T ventilation systems to its commercial indoor air solutions, compatible with R32 refrigerant

Vienna, November 2024 — Daikin has been committed to enhancing indoor air quality since its founding 100 years ago. With the latest upgrade to its Compact series Air Handling Units (AHU), the world's leading air-conditioning company¹⁾ introduces advanced ventilation solutions specifically designed for light commercial applications, restaurants, offices, and schools. The new Compact L and T ranges are compatible with Daikin's R-32 outdoor condensing units (ERA, VRV), reducing global warming potential of HVAC systems.

Importance of indoor air quality

"The air we breathe in usually contains a broad variety of airborne pathogens, volatile organic compounds, CO₂ and particulate matter. What many of us don't know is that these contaminants can have an adverse effect on our health. However, their concentration can be significantly lowered or eliminated by proper indoor air quality management", says **Ziya Mert Gönlüsen, General Manager Commercial Business at Daikin Central Europe**. "With the introduction of the new Daikin Compact L and Compact T, which offer decentralized ventilation solutions, we expand our air handling unit range. These units are Eurovent-certified and Eco Design (ErP) compliant, making them ideal for offices, restaurants, schools, and light commercial applications." Both series are now available in six sizes with capacities ranging from 150 to over 4,000 cubic meters per hour (m³/h) airflow.

A glimpse on benefits of Daikin's Compact series air handling units

- The Daikin Compact series AHUs impress with **exceptional airflow management** and can operate in either Constant Air Volume (CAV) or Variable Air Volume (VAV) modes.
- Regarding installation, the new Compact L can be mounted in suspended ceilings, while the new Compact T can be installed anywhere on the floor inside the building. Overall, the installation of the Daikin Compact series is simple and hassle-free for installers.
- Investors and end users benefit from the compact size, which requires minimal space.
- The AHUs in the Compact series are equipped with 50 mm thick mineral wool insulation, and the available silencer options can be installed in areas where low noise levels are important, such as in offices and schools.
- Plus, Daikin is the only manufacturer to offer an all-in-one HVAC system solution: the Compact L and T air handling units are compatible with Daikin outdoor condensing units (ERA, VRV) that use refrigerant R-32, helping to reduce global warming potential in line with current F-Gas regulations.





More details on the reasons to choose the Daikin Compact series AHUs

1 - Compactness

The new Compact L air handling unit series is designed with an extremely low height, ranging from just 280 mm for Size 02 to 500 mm for Size 07, making it an excellent choice, especially for very limited spaces. The height is also optimized to facilitate installation in suspended ceilings, while both right and left connection options provide added flexibility. Additionally, the dual-side configuration allows for better management of the unit's ducting.

The new Compact T series is also designed with an extremely low depth ranging from just 550 mm for Size 03 to 890 mm for Size 07, allowing it to fit easily through any standard door. This makes the air handling systems suitable for use in both existing buildings and new constructions. The Compact T series also offers the same advantages of left and right connection options, providing greater installation flexibility and improved handling of ducting, piping, and system controls.

2 – Additional filter for even better indoor air quality

With the option of adding a **two-stage filtration**, the second filtration stage ensures excellent indoor air quality, achieving a filtration level of 50% of filter class ePM1 (F7) up to 80% of filter class ePM1 (F9) on the supply air side. This helps to make the **indoor air cleaner and healthier**, and enhances the overall **comfort** of the occupants.

3 – Unique construction, higher heat recovery efficiency

The **built-in premium counterflow heat exchanger** allows both the air drawn in from the outside and the recirculated indoor air to flow through without mixing the two air streams. However, the specific design of the heat exchanger enables the desired heat exchange to occur. This **prevents contamination of indoor air by outdoor air** and improves the overall energy efficiency of the HVAC system. The **modulating bypass damper**, as a key component, ensures **precise control** over the heat recovery effect. For designers and end users, this smart design means increased efficiency and reduced costs.

4 - Adaptability and scalability

Thanks to the wide range of accessories, Daikin's Compact L and Compact T air handling units can meet a variety of project requirements.

- For example, silencers can reduce the noise level generated by the units in noise-sensitive environments.
- When a cooling coil is installed, the droplet eliminator extends the operational range of the AHU series.





- Flexible joints can help prevent issues and breakage caused by vibrations in the HVAC system over time.
- External dampers with spring return actuators are occasionally required for installations with an R32 DX coil to comply with IEC60335-2-40 ed. 7 standards.
- Finally, the **frost protection switch** safeguards the water coils from potential damage caused by freezing in colder environments.

The wide range of available airflow options allows different application requirements to be met, depending on the installation characteristics. Various design options, such as integrating hydronic coils for applied systems or using DX coils for direct expansion systems, further enhance adaptability. Accessibility can be improved with special door rails, while in the standard version, the doors open downwards with a double-door mechanism.

The units can be **combined with various HVAC systems**, including **hydronic and direct expansion (DX) systems**. In both cases, Daikin can provide a **complete**, **fully integrated solution** using Daikin components:

- For example, the Compact AHU series can be equipped with ventilation connected to a hydronic coil, as in applied systems with a chiller or a heat pump.
- A connection with a Daikin DX condensing unit is also possible by integrating a DX coil with R410A and R32.
- This allows Daikin to offer a complete package solution, regardless of the system type chosen.
- For DX systems using R32 refrigerant, Daikin can also provide a central accessory: external dampers with a spring return actuator to comply with the IEC60335-2-40 ed. 7 standard.

5 – Certified design

The new Daikin Compact series AHUs feature a **Eurovent certification**, ensuring casing performance and quality. Furthermore, the Compact L series complies with the **hygienic standard VDI6022-1**, ensuring a high level of indoor air quality. Since the Compact AHUs range is equipped with a counterflow plate heat exchanger that transfers heat between two airflows, energy from the exhaust air is used to preheat or precool the incoming fresh air, **reducing overall energy consumption**. In addition, the Compact series AHUs contribute to scoring points in several categories of the **green building protocols LEED, WELL, and BREEAM**, providing users with healthier indoor air and resulting in higher property value for owners.

6 – Optimized performance, reduced operating cost

Investors benefit from optimally aligned performance in multiple ways: The Daikin Compact AHUs offer efficient heat recovery with minimal noise generation and a discreet design. The bypass and heating coil modes enable highly efficient defrosting, which reduces energy consumption. An optional modulating electric heater and the cooling/heating coil allow precise control of the flow temperature. Indoor air quality can be improved with an optional CO₂ sensor, which also helps minimize energy loss. Furthermore, energy efficiency is enhanced by EC inverter-driven centrifugal fans, reducing operating costs and energy consumption.





7 – Plug-and-play solution

Installers particularly benefit from the fact that the unit series is **pre-configured and pre-assembled**. This **simplifies installation and commissioning**. The installation effort is reduced, less technical support is needed, and downtime after commissioning can be minimized, increasing customer satisfaction. Since the unit is ready for use immediately after installation, the commissioning process is also accelerated. All of this contributes to easier and less frequent maintenance.

The Daikin Compact series air handling units, including the new Compact L and T models, are now available.

Reference:

1) Fuji Keizai Co., Ltd. "Global Home Appliance Market 2024" (Ranking of Equipment Sales for Global AC Manufacturers [FY 2022 Results])

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About

100 years Daikin

The story of Daikin has always been shaped by groundbreaking ideas, technological innovations, and dedicated people. It began in 1924 when the young Japanese engineer Akira Yamada founded an enterprise in Osaka to manufacture aircraft radiators with a 15-member team. Today, 100 years later, the Daikin Industries Ltd. group brings future-proof solutions for heating, cooling, ventilation, air purification, and refrigeration to global markets. More than 98,000 employees in 175 countries continue the company's legacy of leading technologies to advance low carbon heating and cooling, while ensuring the highest level of comfort. For its fiscal year 2023 the global Daikin Group reported a record sales result of € 28 billion sales (1 April 2023 − 31 March 2024).

Read more on 100 Years Daikin

Daikin Europe N.V.

The Daikin Europe Group is a leading provider of heating, cooling, ventilation, air purification and refrigeration (HVAC-R) technology across Europe, Middle East, and Africa. Daikin designs, manufactures, and offers customers a broad portfolio of products, maintenance services, and turnkey solutions for residential, commercial, and industrial applications. The group currently employs over 13,800 people across more than 59 subsidiaries and operates 14 manufacturing sites in Belgium, the Czech Republic, Germany, Italy, Spain, Austria, the United Kingdom, Turkey, the United Arab Emirates, and the Kingdom of Saudi Arabia. Headquartered in Ostend, Belgium, for over 50 years, the Daikin Europe Group is a subsidiary of Daikin Industries Ltd.

Read more on www.daikin.eu





Daikin Airconditioning Central Europe

Daikin Airconditioning Central Europe, founded in 1999 with its headquarters in Vienna, Austria, operates as a subsidiary of Daikin Europe. Its portfolio includes **products and total solutions for heating, cooling, ventilation, air purification, and refrigeration in residential, commercial, and industrial settings**. With over 700 employees and 3,400 partners, the company manages sales and service activities across **16 countries in Central and Eastern Europe**, including Austria, Albania, Bosnia and Herzegovina, Bulgaria, Croatia, the Czech Republic, Hungary, Kosovo, Montenegro, Moldova, North Macedonia, Poland, Romania, Serbia, Slovakia, and Slovenia.

With 'Your Daikin World' at the Vienna headquarters and the 'Daikin Inspiration Park,' the HVAC-R industry and the construction sector have access to two state-of-the-art B2B-experience centers for co-creating tailor-made solutions for hotels, retail, offices, and large commercial applications. Across the CE-region Daikin runs 10 out of 116 B2B-trainings centers across Europe. Consumers and homeowners receive consultations at four B2C-Experience centers in Vienna, Belgrade, Bratislava and Budapest.

Read more on www.daikin-ce.com

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