FOOD DISTRIBUTION

B+S Logistics, Bielefeld, Germany



Daikin refrigeration systems help logistics company keep its cool

Precise temperature control and reliability are essential in any refrigerated transport supply operation, which is why logistics service provider B+S GmbH Logistik und Dienstleistung opted for Daikin's ZEAS technology when it came to optimising the temperature-controlled central warehousing operations at their site in Bielefeld Germany.

Founded by Stefan Brinkmann and Hans Dieter Schürmeyer in 2001, B+S now has more than 600 employees, nine locations and a fleet of 60 trucks. With more than 230,000 square metres of floor space throughout Germany, the company provides transport, promotional, contract and warehousing logistics as well as e-commerce fulfilment.

B+S decided to build two new warehouses at the Bielefeld site to provide additional space for the handling of refrigerated goods. Today, the Bielefeld facility offers 28,000 square metres, of which nearly 10,000 square metres are temperature controlled, featuring a high-rack warehouse, a picking and packaging warehouse and a modular shelving system.

Being green is a concept that is central to B+S operations: minimising environmental impact was therefore a key driver in the choice of technology.

Commenting on the decision to go with Daikin, Christopher Fratz, a systems engineer at Zimmer & Halbig GmbH in Bielefeld explains *"In the end, together with the customer, we decided in favour of the ZEAS technology from Daikin. In addition to high energy efficiency, the relatively low costs and minimal environmental impact played a major role in the decision."*

Built-in flexibility and energy savings

The temperature-controlled floor space is divided between the two warehouses, with 4,638 square metres located in warehouse A and 4,706 square metres in warehouse B.

To maximise flexibility, the warehouses are divided into separable zones for which different temperature settings can be specified: up to +4°C, up to +16°C and up to +25°C.

High-capacity units were necessary to ensure constant temperatures for storing food all year round. A total of 20 ZEAS condensing units were installed on the warehouse roofs. In warehouse A, ten ZEAS units with a combined refrigeration capacity of 560 kW keep temperatures between 1°C and 4°C. In warehouse B, an additional ten units with a total output of 340 kW regulate temperatures, keeping them between 14°C and 16°C.



"In addition to high energy efficiency, the relatively low costs and minimal environmental impact played a major role in the decision."

Christopher Fratz, Zimmer & Halbig GmbH

Project Requirements

- ☐ Air conditioning
- ☐ Control
- ☐ Air Curtain
- ☐ Air Purification
- ☐ Heating
- ☐ Heat Recovery
- ☐ Hot water
- ☑ Refrigeration
- ☐ Ventilation

Year of installation

2016

Installed Systems

> ZEAS

With all commercial-refrigeration components united in a single system, the ZEAS condenser units offer a compact and standardised design. Integrated software allows close monitoring of the refrigeration systems and easy temperature adjustment. Deep-freeze storage down to –25°C can be provided on request.

"Also key was the fact that the system operates with the refrigerant R-410A, cutting energy costs by around 30 percent compared to other multi-compressor refrigeration systems. As a result of the small amount of refrigerant used, fewer leakage tests are required, which is a further advantage when it comes to servicing," notes system engineer Fratz.

For quick and easy installation and commissioning, the units are supplied with a basic refrigerant charge and then factory-tested and preconfigured before delivery.

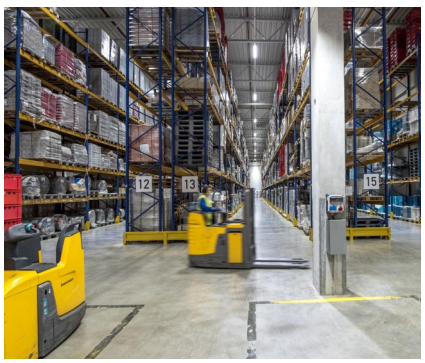
High efficiency at part loads

Based on Daikin's proven VRV technology, the ZEAS condensing units feature inverter-controlled scroll compressors that enable particularly efficient operation under partial-load conditions. Equipped with economiser technology, the compressors further reduce the temperature of the refrigerant, thus increasing useful cooling gain.

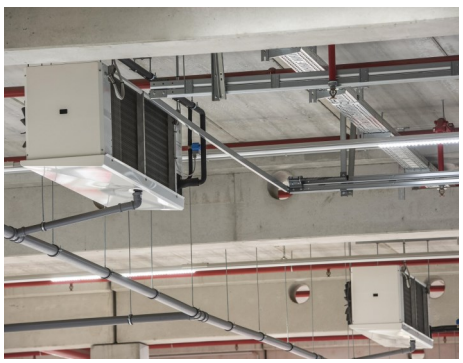
"After nearly two years of operation with the ZEAS condensing units, we're very satisfied with the technology from Daikin."

Failsafe system

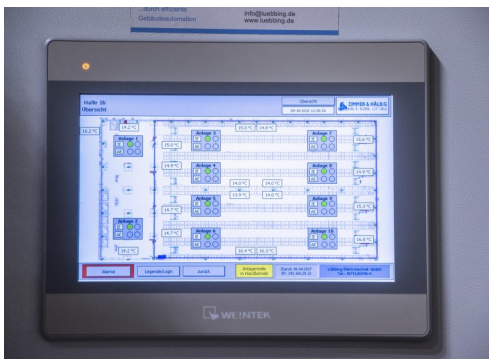
The units' operating status can be monitored at any time, enabling irregularities to be addressed quickly. Even if one unit fails, the other nine have enough refrigeration capacity to maintain the temperatures needed in the warehouses. Each system is connected to two evaporators to maximise operational reliability. *"This redundancy is extremely important to us, because only stable temperatures guarantee freshness,"* emphasises Florian Jahnke, head of the B+S location in Bielefeld.



Two temperature-controlled warehouses provide space for goods that require refrigeration.



Each ZEAS unit is connected to two evaporators to ensure reliability.



The units' operating status can be monitored at any time, enabling irregularities to be addressed quickly.