



EDEKA LÜNING Paderborn

Remote CO₂ System with heat recovery

In Paderborn, Germany, EDEKA Lüning has modernized its supermarket with a new commercial refrigeration and freezing system. In line with EDEKA's commitment to sustainability, the customer sought a solution that not only complies with current EU F-Gas regulations but is also future-proof against upcoming revisions. As a result, the decision was made to utilize CO₂ as a natural refrigerant for the store. Covering 1,300 m², the market now features more than 37 cooling and freezing units, all seamlessly integrated into the CO₂ system and 24 plug-in chest freezers utilizing the refrigerant R290. The CO₂ system is powered by

Daikin CO₂ Conveni Packs, providing an energy-efficient solution that impressed the customer with its high reliability and built-in redundancy, ensuring safe and seamless operation. What makes this installation truly unique is that the building's heating system is also covered by the Conveni Packs ensuring heating and cooling from a single source. Additionally, it efficiently utilizes waste heat of the commercial refrigeration system for heating purposes. The new Daikin CO₂ cassettes distribute hot or cold air directly to the shop floor, ensuring optimal indoor climate conditions.

Year of installation

2024

Installed System

- _AHT Remote CO₂
- _VENTO CO₂
- _MONTREAL XL
- _Daikin CO₂ Conveni Pack
- _CO₂ Cold room units

Project requirements

New commercial refrigeration system with natural refrigerant, high energy efficiency and safety.

*Innovative CO₂ system
for commercial
refrigeration and building
climatization.*

Since the supermarket is located on the ground floor of a residential building, the system had to meet strict noise level requirements to ensure that residents were not disturbed. This challenge was successfully addressed by using multiple covered Daikin CVP units, which effectively distribute ambient noise and keep sound levels to a minimum.

In addition to the CO₂ refrigeration system, the customer selected MONREAL XL cabinets for the freezer section. These units provide maximum flexibility in installation and repositioning, as they only require a power connection.

This project highlights the seamless integration of AHT and Daikin solutions, resulting in an energy-efficient and future-proof refrigeration system.

