

# Complete & Sustainable Refrigeration Solutions for Food Storage

## Project Planning

- Energy and environmental impact consulting and analysis
- Optimal refrigeration technology solutions
- Complete project design and documentation



## Product Development & Manufacturing

- Advanced refrigeration technology and integrated systems
- Energy-efficient solutions for the system lifecycle
- Sustainable natural refrigerant technologies



## Installation

- Approach tailored to unique customer requirements
- Experienced teams with standard work processes
- A focus on quality throughout the process
- Limited on-site time for minimal business disruption

## Lifecycle Care

- Preventive maintenance program
- 24/7 call center and service assistance
- Remote monitoring to ensure optimized performance
- System modernization for improved efficiency

Carrier Commercial Refrigeration is a leading supplier of high-efficiency turnkey refrigeration systems and services in the food retail industry.

[www.carrier-refrigeration.com](http://www.carrier-refrigeration.com)  
[www.carrier.com](http://www.carrier.com)



# CO<sub>2</sub> Refrigeration Solutions for Refrigerated Warehouses



Efficiency and sustainability for large capacity loads



# Refrigeration for distribution centers? We have it solved - naturally!

Carrier delivers the intelligent and efficient solutions needed to satisfy large capacity loads and to control temperatures in all areas, all while controlling energy costs.

Carrier MaxiCO<sub>2</sub>OL® refrigeration racks leverage proven CO<sub>2</sub>OLtec® carbon dioxide (CO<sub>2</sub>) refrigeration technology to deliver sustainable efficiency for large cooling capacities, while demonstrating average energy savings of approximately 10 percent compared with traditional hydrofluorocarbon (HFC) refrigeration systems in mild to cold climates. Additional savings and even higher efficiency can be achieved with our CO<sub>2</sub>OLheat™ modular heating units. They collect the waste heat created during the refrigeration process and redistribute it for space and hot water heating elsewhere in the premises.

A pioneer in CO<sub>2</sub> commercial refrigeration technology, Carrier has invested extensively in the development of transcritical CO<sub>2</sub> systems for more than 10 years. Since its official launch in 2009, the CO<sub>2</sub>OLtec technology has been used in more than 1850\* food retail applications.



Installation of MaxiCO<sub>2</sub>OL multi-compressor racks at EDEKA Südbayern distribution center in Landsberg, Germany

## CO<sub>2</sub> – a natural refrigerant

- Environmentally sound refrigerant
- Global Warming Potential (GWP) = 1
- Ozone Depletion Potential (ODP) = 0
- A1 refrigerant safety classification (DIN EN 378-1)

## Benefits of CO<sub>2</sub> refrigeration

- Low energy and lifecycle costs
- Sustainable, reliable solution
- Reduced greenhouse gas emissions by up to 50%
- Not subject to EU F-gas regulation
- Integration into already existing Building Management System (BMS)
- Remote monitoring by Carrier's European e\*Service Center

\*as of December 2015



### Multi-compressor rack

LT capacity: up to 170 kW  
MT capacity: up to 400 kW  
Parallel operation of several compressor racks for higher cooling capacities and redundancy purposes.



### Building space heating system

Heating capacity:  
35 kW to more than 500 kW\*

\*at -10 °C ambient temperature



### Air-cooled gas cooler

Capacity: 23 kW to more than 1 MW