eCool™ Series

ELECTRIFY YOUR COLD CHAIN

Carrier
TRANSICOLD

MAKING SUSTAINABLE INROADS INTO THE FUTURE

Carrier Transicold knows sustainability is key to optimizing resources for future generations. In the aim to Carrier's goal to reduce customers' carbon footprint by 1 gigaton while continuing to improve and innovate, we develop sustainable, high-performance cold-chain solutions to reduce environmental impact and maximize overall economic value today and tomorrow.

REDUCE CO_2 EMISSIONS

DECREASE PARTICULATE EMISSIONS

LOWER NOISE EMISSIONS

MAINTAIN EFFICIENCY & COST-EFFECTIVENESS

WHY ELECTRIC SOLUTIONS?

Carrier Transicold has been pioneering electrification for more than 20 years. It all started with the strategic launch of our E-Drive™ all-electric technology in 1999, transforming mechanical transmissions into electricity. This was the gateway to fully electrifying our refrigeration units and replacing fossil fuel engines.

Electrification has been continuously growing in the passenger car industry over the years and is now significantly evolving the truck OEM industry by reaching cold chain transport equipment.
Carrier Transicold is fully embracing and acting upon this transformation.

Today, Carrier Transicold is proud to offer an electric solution for 100% of our vehicle ranges:

Trailer

Truck

LCV

BATTERY PACKS TO POWER NEXT-GEN REFRIGERATION UNITS

Carrier Transicold now offers a suite of battery packs to meet the demands inherent to market transformation. Battery packs are coupled with refrigeration systems in order to provide electric power directly to the unit.

For LCVs and light duty trucks, Mastervolt batteries are a good fit to power refrigeration units with smaller electrical power needs. For medium, heavy-duty trucks and trailers, Carrier Transicold has partnered with the Portuguese technology company AddVolt.

ADDVOLT™: A PARTNERSHIP FOR SUSTAINABLE POWER

In a major step towards expanding its electrification capabilities, Carrier Transicold has partnered with the Portuguese company, AddVolt, and equipped the Vector eCool™ with their system avoiding fuel usage, thus reducing major emissions including noise, particulates, nitrogen oxide (NO2) and carbon dioxide (CO2).

Ideally suited for Carrier Transicold's Vector Range, the medium and large AddVolt battery packs are destined for BE-TRU application (Battery-Electric Transport Refrigeration Unit) for battery recharging solely via a grid connection, or RE-TRU application (Renewable Electric Transport Refrigeration Unit), for battery recharging via a grid connection and a regenerative axle.

BATTERY PACKS: CHEMISTRY MATTERS

When it comes to Lithium-ion batteries, numerous options exist - but none are perfect, and each comes with technological advantages and disadvantages. Depending on your needs, multiple criteria should factor into finding the best balance for your application.

Carrier Transicold has chosen a battery technology bundling the best-case scenario for criteria:

Lifespan
Key to preserving unit operation and product life

Available power
Provides maximum available power from common chemistries for high-consumption devices

Safety of operation
One of the most balanced chemistry types for the highest stability

Technology cost
Avoids overly rare materials to ensure well-balanced pricing for this level of energy storage

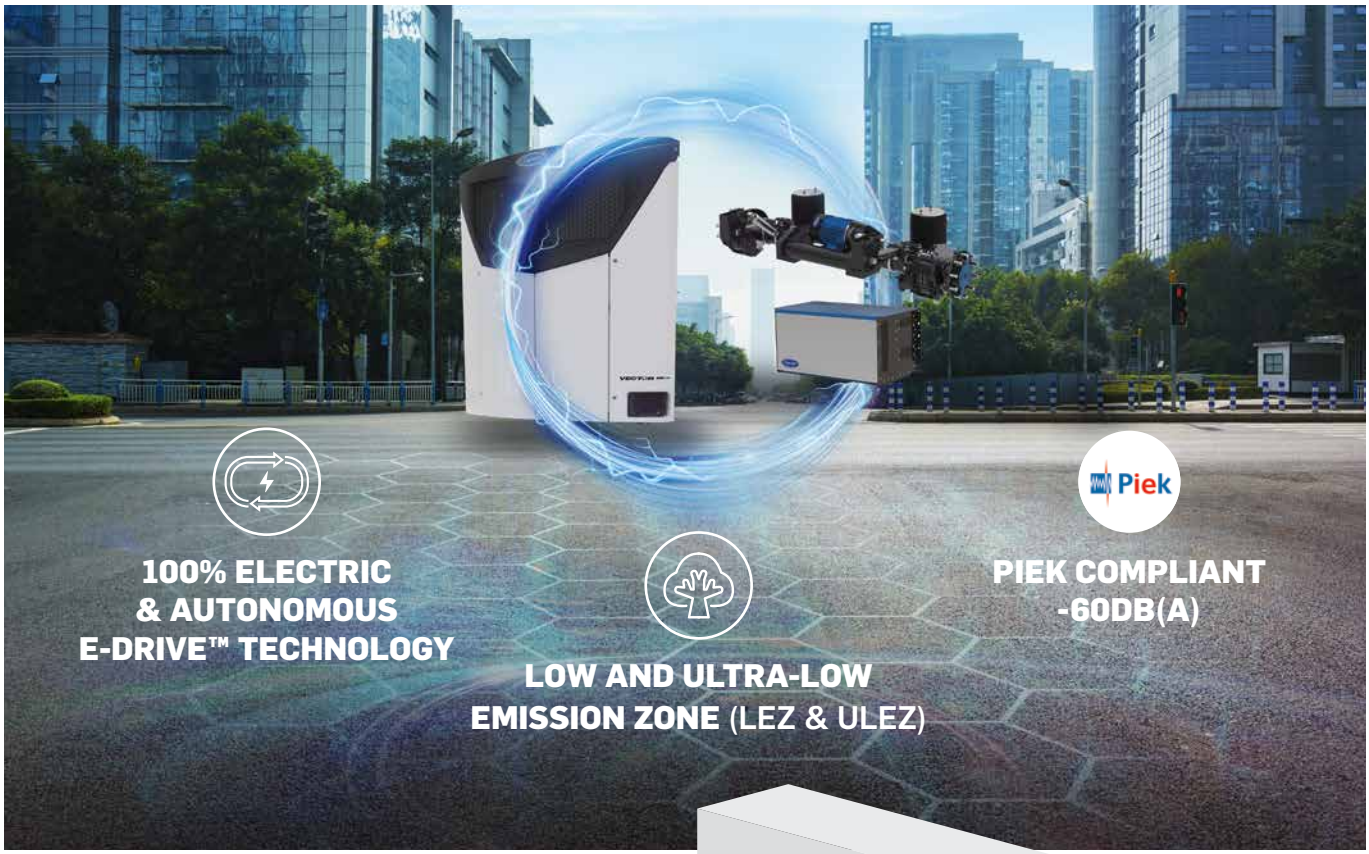
TRAILER

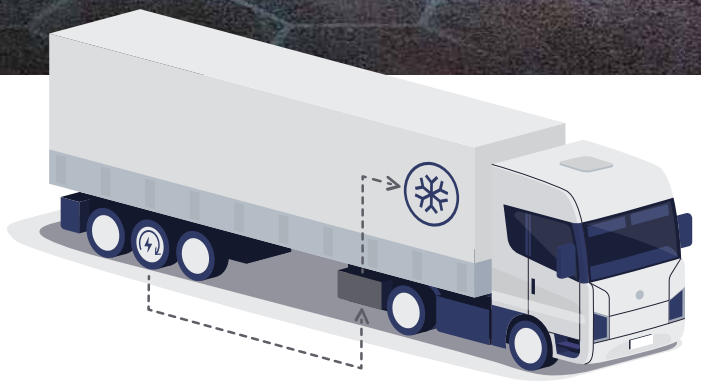
VECTOR eCool™:
100% electric for greater sustainability

Carrier Transicold presents Vector eCool™, the first fully autonomous, all-electric, engineless refrigerated trailer system.

Suitable for operation with the Vector HE 19, the Vector eCool combines Carrier Transicold's E-Drive™ all-electric technology with a next-generation energy recovery and storage system using kinetic energy generated by the trailer axle and brakes. This energy is converted to electricity and stored in a battery pack that powers the refrigeration unit. The resulting loop is a fully autonomous system producing no direct carbon dioxide or particulate emissions.

ENERGY MANAGEMENT SYSTEM: A VIRTUOUS CIRCLE





The Vector eCool is more than a simple solution designed to store electricity in a battery pack.
This system is a comprehensive energy management system that monitors the energy input and output of the battery pack to provide the best balance between autonomy, refrigeration and return on investment.
The battery pack is consequently able to recharge itself automatically according to its environment and to the customer's applications.

TRUCK

SYBERIA eCool™
for electric trucks

As environmental challenges and regulations evolve, medium and heavy-duty truck manufacturers are shifting from conventional fossil energy sources to electrical solutions. The resulting deep transformation of vehicle architecture directly impacts transport refrigeration units, which must adapt to this new paradigm.

To meet this challenge, Carrier Transicold introduces the Power Box, a converter unit that connects your Carrier Transicold TRU to the OEM main battery pack. The compatibility of your Carrier Transicold TRU is further upgraded thanks to our native E-Drive technology, which provides high cooling capacity in electrical mode for greater efficiency and minimal impact on vehicle autonomy.

For trucks, Carrier Transicold can also link your refrigeration unit to a battery pack, from light duty to heavy-duty trucks. For small electrical power needs, Mastervolt batteries will be the best fit, while Addvolt batteries will be able to power your heavier trucks' electrical needs.

PULSOR eCool™:
the fully-electric unit, for LCVs

LCV

Settled as the best sustainable solution for customers choosing to operate in a modern, electric urban delivery, the Pulsor eCool is the first of its kind. It is specifically designed to operate directly from the high voltage DC current generated by the batteries powering an electric light commercial vehicle (LCV).

100% ELECTRIC
E-Drive™ technology

SMART REFRIGERATION
Ready to exchange data with vehicle in live for an optimized and peaceful journey

PLUG & PLAY SOLUTION
Operates directly from the high voltage DC

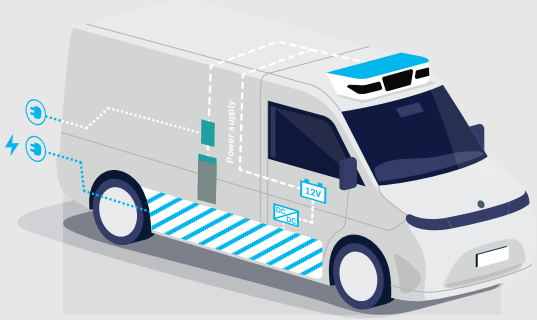
The original Pulsor system was the first LCV unit to harness the electrification potential of Carrier's E-Drive™ technology. This original design allowed it to be prepared for the challenges posed by vehicle electrification. The development of the Pulsor eCool means users can operate the refrigeration unit without the need of an additional battery pack or a voltage converter. It delivers a sustainable, cost-effective and powerful plug & play solution.

NEOS eCool™
for electric LCVs

LCV

For refrigeration units with smaller electrical power needs, Carrier Transicold can link your refrigeration unit to a Mastervolt battery pack. Existing in 2.75kWh or 5.5kWh, this compact solution includes the 100A charger, which communicates with the battery to initiate a fast recharge, ensuring maximum safety for all your operations.

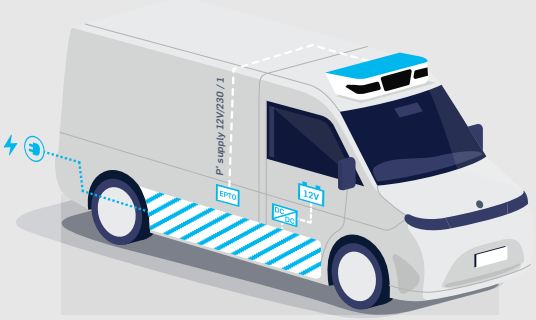
BEV option 1



Approved Mastervolt battery pack

Standby operation on battery pack
while recharching

BEV option 2



Road operation on truck

12V/230V EPTO
Standby operation
on truck 12V/230/ ePTO

THE RIGHT PACK FOR YOUR APPLICATION

Carrier Transicold offers a range of medium and large format battery packs:

- AddVolt battery boxes for truck & trailer
- Power boxes for trucks
- Mastervolt batteries for LCVs

	LCV Up to 7.2t	Light Duty truck 7.2t to 12t	Medium Duty truck 12t to 19t	Heavy Duty truck 19t to 26t	Tractor	Semi-Trailer
Battery (Mastervolt)	X	X				
Battery (Addvolt)		X	X	X		X
Power Box		X	X	X	X	
Eco-Drive			X	X	X	
Engineless (TRU)			X	X		X

IT'S NEVER BEEN EASIER TO GIVE YOUR FLEET AN EDGE
- MORE THAN 600 SERVICE CENTERS
- MORE THAN 2200 TECHNICIANS
- 24/7 ASSISTANCE JUST ONE CALL AWAY
- A FULL-SERVICE MAINTENANCE AGREEMENT

BLUEDGE

DELIVERING CONFIDENCE

At Carrier Transicold, confidence is what drives us forward. We provide healthy, safe, sustainable, and intelligent cold chain solutions, offering customers advanced connectivity and visibility.

CONNECTED COLD CHAIN SOLUTIONS

LYNX FLEET

Lynx™ Fleet helps Carrier Transicold customers optimize cold chain operations, decrease energy use and enhance outcomes while reducing costs, delays, cargo loss and spoilage in transit.

By enhancing visibility, resiliency, agility and efficiency in the cold chain, the cloud-connected Lynx™ digital platform helps reduce loss and support real-time decisions, ensuring foods and vital medications safely reach people who need them around the world.

Carrier TRANSICOLD

Follow us

Carrier Transicold Europe S.C.S.
3, rue Joseph Monier
Immeuble Cristalia
92500 Rueil-Malmaison - France
Phone: +33 (0)1 41 42 28 00
www.carriertransicold.eu