# #Innovations1st







FRIGOLINE HPI is not just an incremental upgrade of insulation foam; it is a technological breakthrough that redefines the standards of refrigerated bodywork.

Shortlisted for the Solutrans I-nnovation Awards in the "Coachbuilders" category, this new generation of insulation has been co-developed with Saitec and Kingspan, specialists in advanced insulation formulations.



This sustained performance is made possible by Lamberet's exclusive **continuous lamination process**, which fully encapsulates the insulation and ensures long-term stability of its properties.

FRIGOLINE HPI is engineered to meet the current and future needs of electric, hybrid and ICE light commercials, providing enhanced insulation, controlled environmental impact and significantly reduced load on the cooling unit.



Innovation through insulation, for every energy type.

HPI insulation foam is based on an innovative closed-cell formulation, free from persistent fluorinated agents. Combined with Lamberet's continuous panel production process with fully closed edges, it ensures unrivalled homogeneity — a key prerequisite for high thermal performance.

On a refrigerated light commercial vehicle, FRIGOLINE HPI enables a target K-value of approx. 0.30 W/m²-K, significantly reducing energy consumption and cooling unit runtime. This thermal control makes it the ideal solution for both electric and ICE LCVs where TCO must be tightly controlled.









#### + FRIGOLINE HPI innovates through its technology, its process and its formulation:

- High-performance polyurethane foam co-developed with Saitec and Kingspan
- PFAS-free and HFO-free formulation, anticipating forthcoming regulations
- Closed microcellular structure with very high homogeneity
- · Continuous lamination process ensuring fully closed edges and stable thermal performance

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#### + FRIGOLINE HPI delivers long-lasting energy performance:

- Up to -33% thermal loss reduction depending on configuration
- Target K-value ≈ 0.30 W/m²·K (85 mm LCV application)
- Fewer compressor operating hours = lower running costs
- Preserved range on electric LCVs (measured gains of up to +9 km per route)

#### + More efficient, responsible and sustainable operation:

- Reduced overall vehicle energy consumption
- Lower indirect emissions thanks to reduced cooling unit demand
- Clean formulation compliant with upcoming PFAS/TFA restrictions
- Increased durability = optimised TCO over 10-12 years of operation









### Zero-emission urban refrigeration, without compromise

The Kia PV5 chassis-cab heralds a new generation of electric vans. Its low SDV (software defined vehicle) platform, designed for conversions, has enabled Lamberet to develop the **first innovative BEV application of FRIGOLINE HPI** — a refrigerated body designed to preserve range while maximising urban usability.

FRIGOLINE HPI combines four major innovations that set a new benchmark for electric refrigerated vans:

- HPI insulation with 85 mm panels, delivering up to 33% less thermal loss.
- A direct-fit architecture with no subframe, derived from Lamberet's expertise in platform-cabs, lowering the loading height, reducing weight and optimising rigidity.
- An underfloor eCoolJet 206 cooling unit, 12 V electric for positive cold, ultra-compact and ultra-low consumption (55 A), preserving the traction battery.
- An H1 version ≤ 1.90 m overall height, unique in its segment, granting access to car parks, shopping centres, LEZ/ZEZ and underground delivery zones.

The complete package delivers direct, immediately measurable benefits: more range, full urban access, improved delivery ergonomics, preserved payload and an unrivalled volume-to-energy ratio.

Available with 5 m³ (H1) or 7 m³ (H2) load space, FRIGOLINE HPI on Kia PV5 chassis-cab paves the way for a new generation of zero-emission refrigerated vans, combining thermal performance, operational efficiency and competitive running costs.



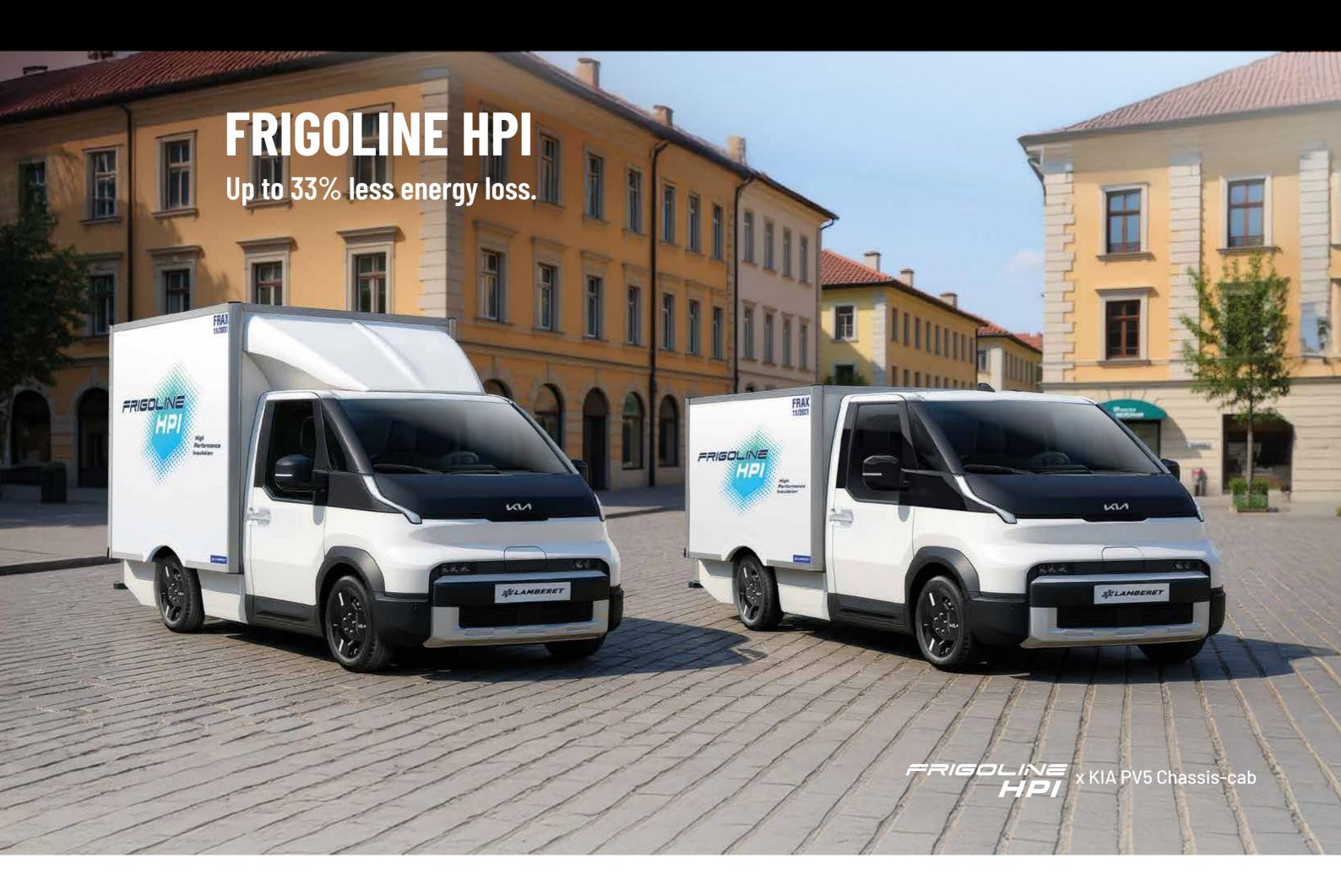












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THE FUTURE

#Innovations1st







DOLPHIN: Development Original truck Lab for PHysical INtegration



Developing, validating and pre-industrialising the next generation of electric refrigerated combinations.

















Carried out in partnership with Renault Trucks, Lamberet, SafetyTech-Gauzy and several leading research laboratories (INSA Lyon - LaMCoS & Ampère, LMFA, LAPSCO / UCA), the DOLPHIN project aims to design an electric tractor unit + refrigerated semitrailer conceived as a single integrated system rather than a mere assembly of independent modules.

Unlike purely "conceptual" approaches, DOLPHIN relies on a full-scale prototype that has already covered several thousand kilometres of testing and is used to validate technologies intended for industrial deployment from 2026.

# A laboratory semitrailer: SR2-e, a testbed for concrete innovations.

**SR2-e is an experimental refrigerated semitrailer** designed to measure, compare and validate technologies that must comply with the upcoming VECTO trailer CO<sub>2</sub> regulation and GSR II safety requirements.



tested, measured and validated modules

To optimise aerodynamic drag on the electric combination, Lamberet has developed and tested several fairing configurations:

- Modular side skirts covering the chassis and key airflow zones
- Roof-mounted aerodynamic flaps
- Rear AeroTail devices optimising pressure recovery at the back of the body Each configuration has been assessed through CFD simulations, then correlated in wind tunnel testing and validated in proving-ground test campaigns conducted with LMFA.

RESULT: configurations delivering a measured drag reduction of 8 - 12% under real-world operating conditions.

- + ENERGY: an electric combination engineered as a single system
  SR2-e integrates:
  - A high-voltage battery pack,
  - An e-axle generator,
  - A proprietary AC/DC-DC/AC converter,
  - A nd an e-PTO on the tractor side.

The Ampère and LaMCoS laboratories have modelled the entire vehicle combination to define smart control strategies that precisely distribute energy flows between traction and refrigeration according to mission profiles.

**OBJECTIVE:** a refrigeration TCO aligned with diesel - essential to ensure the economic viability of long-haul BEV refrigerated transport.

# + ACTIVE SAFETY: high-definition visibility

In partnership with SafetyTech—Gauzy, DOLPHIN introduces a system based on:

- HD digital cameras with secure Ethernet trailer-to-tractor communication, enabling 360° surround view, manoeuvring assistance and compliance with future GSR II standards.
- New high-visibility LED strips integrated into the vehicle's rear contours
- Lamberet "Crystal LED" signature lighting, improving long-distance vehicle perception

This system goes far beyond conventional rear-view replacement: it lays the groundwork for future intelligent assistance features dedicated to refrigerated semitrailers.

+ ERGONOMICS & OPERABILITY:
a field-driven, not conceptual, approach

#### **DOLPHIN** makes a practical assessment of:

- The impact of fully electric refrigeration on delivery cadence
- Day-to-day operational constraints in delivery operations
- The real integration of vehicle electrical networks
- Compatibility with next-generation cooling units
   Each test campaign feeds into an operational benchmark
   that will guide 2026+ solutions: optimised fairings, standardised
   energy distribution and a secured electrical architecture.

#### CONCLUSION

A forward-looking innovation demonstrator: less energy-intensive refrigerated semitrailers, increased range in electric mode, genuinely usable HMI features, controlled TCO and early compliance with VECTO + GSR II regulations.





















Developed by Lamberet, the X-City range provides an ideal solution to the challenges of urban and regional distribution. The SR2 X-City combines the advantages of rigid trucks and high-capacity semi-trailers.

It is available in versions for 24, 27, or 33 pallets. Their maneuverability is due to the Lamberet X-Steering chassis with a directional axle that follows the tractor's steering angle.

With a specific aluminum floor covering, synthetic protections for skirting boards, a pneumatically assisted insulated curtain, and a noise-resistant tail lift platform surface, this SR2 X-City is eligible for the Peak label, allowing quiet night deliveries.

# DISTRIA

In urban environments, delivery locations make it challenging to use swinging rear doors. The Lamberet Distri+ P CE insulated curtain, assisted, autonomous, and 100% pneumatic, allows for quick deliveries while optimizing and respecting the cold

• 12% more loading space compared to a rigid truck of the same size.

- Up to 60% additional payload. Integrated and timed air curtain.
- ERGOWALL 2.0 insulated partition.
- X-Steering system: reduces fuel consumption and tire wear.
- Galvanized chassis: long-lasting corrosion protection.

chain. Its ergonomic controls and pneumatic assistance ensure quiet opening and closing, while providing effective insulation for frozen products.



## **ERGOWALL**2.0





Ergowall 2.0: the light partition, secure, and efficient solution for your multi-temperature vehicles.





- Military quality polycarbonate coating
- Flexible, shape-retaining memory foam core
- Auto-locking of the sliding capacity, top and bottom position
- Compact system to maximize longitudinal travel of the bulkhead
- Locking in "working" or "rest" position ensured by a patented automatic device.
- Upper strap, to manually unlock sliding.



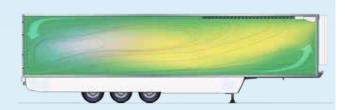
The RFID Safety Door Lock system secures access to rear doors or to the rear shutter.



Opening is only possible with an authorised badge, protecting the load, improving traceability and enhancing operator safety in urban environments.

#### 140

Patented air distribution system with open air guides: **Internal Air Flow Optimizer** 



#### SAFELIGHT









Rear LED signature on a rotating break-resistant support at 2x90°

#### SAFESTAIR



Secure rear access with automatic handling ramp

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# **Ford Trucks F-LINE**

Electric rigid

The benchmark for tomorrow's 100% electric refrigerated rigid.

This Ford Trucks F-LINE Electric 6x2 - 26 t rigid is fitted with a Frigoline HD refrigerated body specifically optimised for multi-temperature operation in fully electric mode, including both traction and refrigeration.

Preconfigured for a Carrier TRS Syberia 18 MT Ecodrive unit powered via the chassis ePTO, the combination delivers stable refrigeration capacity without using any auxiliary diesel engine.

Its reinforced composite insulation ensures optimal temperature hold in intensive use, even with volumes close to 52 m<sup>3</sup>, while significantly reducing cooling-unit workload. Designed for multi-temperature distribution, the body features an ultra-light, assisted ERGOWALL 2.0 partition, ensuring a tight seal between compartments and smooth handling.

At the rear, access is provided by the SAFESTAIR system with retractable steps and synchronised handrail, offering safe and stable entry and exit.

- 100% electric refrigeration via ePTO, multi-temperature operation
- High-insulation monobloc panels for minimised thermal losses.
- ERGOWALL 2.0 bulkhead: ultra-light, assisted, optimal sealing and enhanced ergonomics
- SAFESTAIR rear access: automatic steps with synchronised handrail

# **Renault Trucks D** Wide 19 t rigid



FRIGOLINE HD Beef - Beeflift unloading assistance

This Frigoline HD configuration on a Renault Trucks D Wide 19 t rigid is designed to meet the stringent requirements of the meat sector: structural robustness, long-term hygiene and ergonomic handling. The body uses high-density composite panels moulded in a single piece, with steel roof inserts to support a Norman twin-rail hanging system (gauge 25), a benchmark for swinging dynamic loads.

The interior walls are protected by INTERINOX, Lamberet's exclusive composite + stainless-steel lining, engineered to withstand repeated hook impacts and intensive wash cycles. The vehicle is equipped with the Beeflift system, a mechanical carcass-handling gantry that significantly reduces operator effort and secures unloading rates. The bodied chassis features a galvanised subframe, a 1.5 t Dhollandia taillift with Lamberet stainless-steel/aluminium frame and LED work lighting.

- Norman twin-rail (gauge 25) hanging system for heavy swinging loads
- INTERINOX: ultra impact-resistant composite + stainless-steel protection
- Beeflift: mechanical assistance for carcass unloading
- Durable chassis: riveted galvanised subframe and integrated 1.5 t taillift











WE INNOVATE. YOU GAIN.



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e-COOLJET206

100% INTEGRATED

ULTRA-LOW ENERGY CONSUMPTION

#### Lamberet is leading a new era of conversion for refrigerated vehicles.

With its variable-speed hermetic compressor and high-efficiency micro-channel condenser, the Kerstner eCoolJet 206 cooling unit delivers outstanding thermal performance in a fully integrated, almost invisible package.

- Designed for BEVs via a low-consumption 12 V ePTO (from 55 A)
- Positive cold range: 0 to +12 °C with ATP Class A certification
- Ultra-compact: under-chassis condenser
- Compatible with vehicles limited to 1.90 m or 2.00 m overall height



## **Peugeot Expert**

Easyfit integrated-insulation refrigerated van

On the Peugeot Expert, Lamberet applies its Easyfit integrated insulation expertise to offer a compact refrigerated van that is ideal for city-centre operations.

The conversion consistently achieves the ATP "reinforced insulation" level, including with an insulated sliding side door, thanks to rigorous control of thermal bridges and optimised panel geometries.

Developed as part of a collaborative project with Stellantis, Thermo King and Standby, the Thermo King V-200 MAX cooling unit is controlled directly from the original multimedia screen thanks to Uniscreen

- Easyfit integrated insulation, ATP "reinforced insulation" level.
- Uniscreen cooling control integrated into the original dashboard screen.
- OEM approval and full preservation of manufacturer warranty
- Ideal solution for urban distribution, in both positive and negative cold applications.



technology. The driver benefits from a single interface to manage temperatures, reduce handling errors and maintain full compliance with OEM bodybuilder guidelines. The future to try out, right now.



### **Renault Trafic L1H1**

Lamberet integrated-insulation refrigerated van

The Renault Trafic becomes a highly capable refrigerated van thanks to Lamberet's Easyfit integrated insulation. This conversion, fully compliant with Renault's technical guidelines, preserves the OEM warranty and ensures long-term ATP FRAX certification, even with a sliding side door.

The monobloc design optimises every centimetre of usable volume: continuous insulated panels, elimination of thermal bridges, and airflow management designed for urban delivery rounds

- Reinforced ATP-grade insulation with sliding side door
- Optimised loading volume thanks to the roof-integrated CJ103 evaporator
- Exclusive Kerstner monobloc = increased reliability & reduced maintenance
- Ideal urban solution: manoeuvrability, compactness, refrigeration performance





in positive temperature.

The Kerstner CJ103 cooling unit, a fully hermetic monobloc, is a major advantage: no refrigerant pipework, reduced maintenance, and a roof-integrated evaporator that frees up the entire loading space. The result is lower TCO, excellent operational uptime, and ideal ergonomics for last-mile delivery.





### New

# **Volkswagen Transporter T7**

The new benchmark in refrigerated vans

The new Volkswagen T7 refrigerated van features latest-generation integrated insulation and is available in L1 and L2 versions.

It is fitted with the Kerstner eCoolJet 106 cooling unit for positive cold, renowned for its ultra-low energy consumption. With an under-chassis condenser and a roof-integrated evaporator, the interior loading space is fully optimised without compromising the vehicle's overall height.

This configuration maximises payload volume while minimising environmental impact, making the VW T7 a highly attractive solution for demanding foodservice professionals.

The refrigerated body provides reinforced ATP-grade insulation. Its side door with double sealing to DIN 1815, reinforced anti-wear aluminium floor and robust anti-impact protection on wheelboxes and thresholds ensure long-term durability.





- OEM approval and full preservation of manufacturer warranty
- Fully integrated cooling unit: original overall vehicle height preserved



## **Toyota Proace Max**

Certified refrigerated vanertified refrigerated van

On the Toyota Proace Max, Lamberet installs a reinforced-class Easyfit integrated-insulation body, engineered to meet the stringent requirements of the Toyota Professional product and quality certification programme.

Usable volumes from 8 to 10 m³, positive or negative temperature capability, reinforced interior linings, impact-resistant protections and europallet-width wheel arches make it a robust tool for intensive professional use.

The bodybuilder approval file is based on plant audits, technical reviews and process validations to ensure compliance with body-integration

- Reinforced-class ATP Easyfit integrated insulation.
- 8 to 10 m<sup>3</sup> volumes: chilled or deep-frozen.
- New Toyota Professional bodybuilder approval in progress
- Original cab bulkhead retained for improved safety and acoustic comfort



guidelines and safety requirements. The conversion preserves the original manufacturer's warranty, compatibility with driver-assistance systems, and the long-term integrity of the engine or electric powertrain when supplying the cooling unit.





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### FUTURE NOW

### **Ford Transit Custom PHEV**

Innovation: plug-in hybrid refrigerated van

Lamberet unveils its dedicated refrigerated conversion for the plug-in hybrid Ford Custom. This version delivers the range of an ICE powertrain combined with the driving comfort, running cost and Crit'Air 1 compliance of an electric vehicle.

The reinforced insulated cell, featuring a sliding side door and DIN 1815-compliant sealing, effectively limits energy loss.

The fully integrated Kerstner eCoolJet 106 cooling unit offers three key benefits: original vehicle height preserved for access to underground car parks and class-1 toll categories, ultra-low electrical consumption to maintain EV range, and a roof-integrated evaporator that leaves the loading area completely unobstructed.

It also features an aluminium floor designed to withstand the toughest distribution duties.



- Developed and certified under the Ford Pro Convertor programme
- Fully integrated cooling unit: original vehicle height preserved
- No additional battery pack required
- Ultra-low-consumption cooling unit: EV range preserved



### New

# Ford Transit Châssis Modulaire

FRIGOLINE HPI refrigerated platform-cab

A new development, this "platform-cab" body built on the Ford Transit Modular Chassis introduces a new generation of refrigerated LCVs engineered from the outset for distribution applications.

Its lowered chassis architecture allows direct integration of a low-floor refrigerated body, with no subframe, providing easier ground access and increased payload.

Offering 12 m³ of usable volume, the Frigoline HPI body uses Lamberet's

continuous-lamination process and 85 mm panels (λ = 0.019 W/m.K), comfortably exceeding ATP "reinforced insulation" requirements.

In real-world operation, this means fewer compressor hours to maintain setpoint temperature, lower energy consumption, reduced noise and tightly controlled operating costs.

An ultra-low loading threshold, wide step access, non-slip floor, full peripheral protection including wheel arch guards, Easy-Handle rear doors with magnetic stops, and PIR-sensor lighting all enhance daily ergonomics.



- Lowered modular chassis: low floor, optimal payload
- 12 m³ Frigoline HPI body with 85 mm panels: benchmark-grade insulation.
- Joint development and Ford Pro Convertor certification
- Four rear-door configurations to suit your business: OB1, OB2, OT2, OT3

### **JAC Motors iJAC 7.5T**

100% electric Frigoline Pro multi-temperature refrigerated body

This configuration pairs the fully electric JAC Motors iJAC 75N 7.5-ton rigid (101 kWh battery, 400 V ePT0, GSR2 compliant) with a Frigoline Pro refrigerated body designed to maximise payload, electric range and thermal performance.

The one-piece composite Frigoline Pro structure delivers outstanding lightness while providing premium-grade insulation — already engineered for future integration of FRIGOLINE HPI foam.

This thermal efficiency reduces cooling-unit workload and helps preserve the BEV's driving range.

The vehicle is fitted with a Carrier XARIOS 8 MT dual-temperature cooling unit, powered on-road and on-mains via 400 V, enabling a fully electric operation — traction and refrigeration combined.

- Lightweight body for maximum payload
- Frigoline HPI: refrigeration autonomy preserved
- Forward cab design: improved manoeuvrability in urban deliveries
- Roof-mounted assisted sliding bulkhead





# **IVECO Daily 7,2 t GNC**

A new generation of refrigerated LCVs

In its Frigoline Pro dual-temperature configuration for 8 pallets, the IVECO Daily 7.2 t CNG demonstrates a credible transitional solution towards cleaner refrigerated rigids.

Designed to meet demanding specifications combining operational performance, long-term durability and environmental responsibility, it targets logistics operators and cold-chain specialists seeking to cut emissions.

The 18.5 m³ insulated body, featuring 85 mm panels and ATP reinforced-insulation compliance, is paired with a Thermo King V-800 MAX Spectrum dual-temperature unit with twin evaporators. A mixed non-slip floor, assisted sliding bulkhead, intelligent LED lighting, air curtain and an aluminium Dhollandia tuck-away tail-lift complete a configuration tailored for multi-drop routes.

- Euro VI Step E CNG engine: major NOx and particulate reduction, ZEZ-compliant.
- 18.5 m³ body, 85 mm insulation, ATP reinforced-class.
- V-800 MAX Spectrum: multi-zone deep-freeze capability, road/mains.
- Assisted ½-½ sliding bulkhead, 1,000-kg Dhollandia tail-lift





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