

+100
MODELES

Lamberet, Refrigeration for Professionals

#Innovations1st

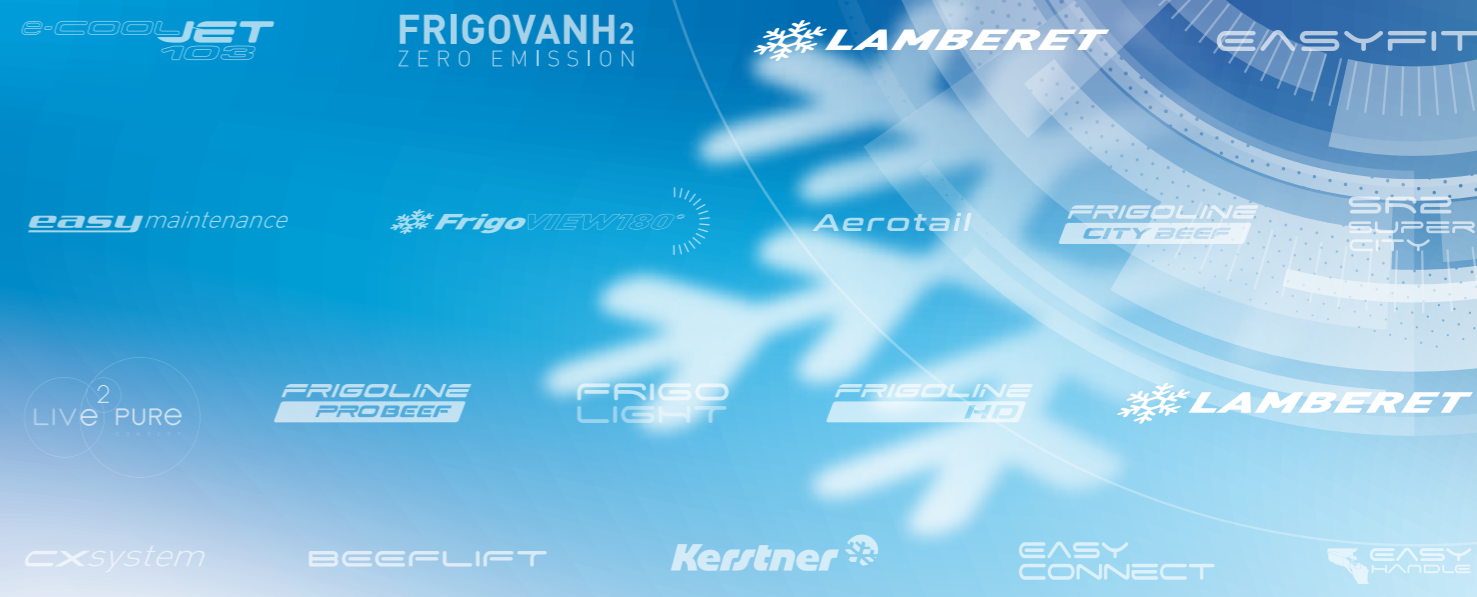
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WE INNOVATE. YOU GAIN.



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VANS . TRUCKS . TRAILERS

ERGOWALL

The Ergonomic link in the cold chain



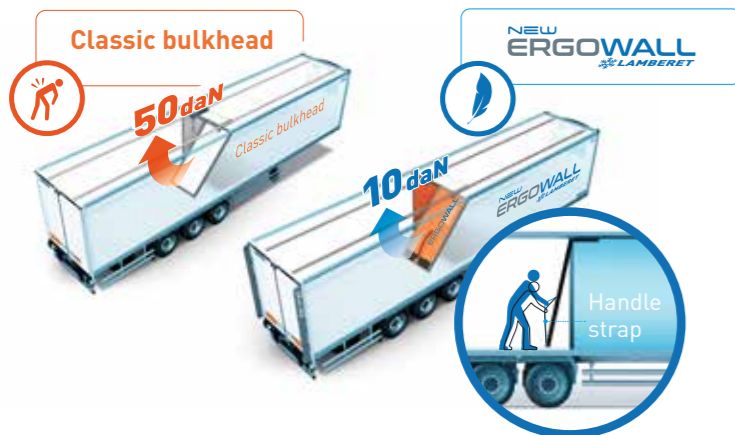
The development of temperature-controlled product distribution (food or pharmaceuticals) requires vehicles that are truly capable of managing several temperatures simultaneously, with a range of between -28°Celsius to +22°Celsius.

The partitioning of the compartments must be perfectly insulating, sealed, modular, easy for the driver to move, and compatible with intensive operating restrictions.



The new ERGOWALL partition wall system meets all these constraints and is a true **technological breakthrough** in comparison with existing systems. The ERGOWALL system fitted to the vehicle is ATP-compatible.

The use of innovative materials has enabled us to reach unmatched performance levels. Impact resistance and flexibility under stress drastically reduce the risk of breakage. The compactness of the raised system gives good passage height, thus optimising the usable volume and securing the load. Finally, the 50% reduction in the weight (gain of 100 kg) of the system is of benefit to the payload and offers savings in consumption.



- Very high-level insulation based on hard foam
- Military quality impregnable polycarbonate coating
- Flexible, shape-retaining memory foam core
- Auto-locking of the slide in the top and bottom position

DISTRIT+

Autonomous pneumatic roller shutter door with reinforced insulation



The new Distri+ pneumatic roller shutter door, 100% made by Lamberet, opens up new horizons in distribution. It combines the best useful height/overall height ratio, the widest passageway on the market with 2.42m thanks to its recessed sliders, and the first insulated bed developed for sub-zero applications.

The unique design of its chevron-shaped bed prevents water from seeping in from outside. Its exclusive handle-free closing system includes an anchor point on the floor and a mechanism that acts on the upper blade: no more poorly closed roller shutter door! Its autonomous pneumatic assistance is naturally more reliable and durable than electric systems. Another innovation is its ultra-compact mechanics, which allow for a fully integrated air curtain.



- Larger passage width, 2.42 m
- 100% pneumatic, autonomous, Electricity-free automation
- Opens and closes without a handle
- Tir latch compatible
- Double independent balancing shaft
- Ultra-compact, silent pneumatic cylinder
- Protected rear evaporator atop roller shutter



NOMINATED



1st refrigerated bodywork controlled by UX voice interface.

The distribution of fresh products requires successive manipulations in difficult conditions, at night, on slopes... Using the bodywork involves grasping a manual control, twisting oneself and having a busy hand. Deliveries' efficiency and safety are at stake.

The Lamberet Command by Voice controls the functions of the refrigerated body. This intelligent UX relies on multiplexing and is integrated locally in the Lamberet Multiplex Smartphone application. Autonomous, it does not need a mobile network, and neither does

the Bluetooth-secured connection between the vehicle and the Smartphone.

Voice control is revolutionizing the delivery process, now operated hands-free. The driver no longer has to let go its Rolls or stop its move to raise the taillift, open the rear curtain or turn on the lights, even more as these functions can be synchronized on demand through multiplexing. Deliveries are smooth, risks are reduced and both the cold chain and energy losses are optimized.

Integrated in the multiplexed platform of Lamberet and its Smartphone app, LCV reinforces the safety and comfort of the body use during deliveries (taillift, isothermal roller shutter door and peripheral lighting...) by the exclusive voice control.

LCV allows the driver to command without access constraint any body controls, safely position himself (improved peripheral vision) and always keep his two hands to hold the pallet carrier or the Rolls during risky handling phases.

Voice control has many benefits both for the driver and the efficiency of logistics :

- > Limit accidents resulting from falls during handling (entry/exit of the loading area).
- > Offer a grouped control always accessible and functional remotely from the loading platform or the ground.
- > Synchronize functions to boost efficiency and safety.
- > Optimize the cold chain, by synchronizing movements (eg: taillift/rear roller shutter door).
- > Limit the operating time of the cooling unit by favorizing closing the door.
- > Secure (theft, pollution) the goods left alone in the body during delivery.



"Voice control activated"



OPERATIONS WITH LAMBERET VOICE COMMAND



CLASSICAL OPERATING PROCESS



FRIGO LIGHT



LIGHTER
BODYWORK
-25%

1st "all-in-one" refrigerated body & cooling unit with new panel technology, lightweight and aerodynamic

The increase in payload of 3.5t LCVs is a strong customer expectation for refrigerated conversions, further reinforced by the arrival of heavier electrical vehicles running on batteries. FRIGOLIGHT is a new all-in-one body & refrigeration unit offer, unveiling a new lighter insulated panel technology.

The converted vehicle has been fully modeled in order to simulate mass, insulation level and mechanical resistance for multiple playable configurations. By successive iterations, hundreds of concepts and new materials have been tested and

selected to minimize weight, while keeping original insulation and mechanical resistance.

The innovative multi-composite insulated panels from FRIGOLIGHT, without metal or wood inserts, as well as the innovative integration of the cooling unit into the roof, offer a saving in mass of 25% and in SCx of 20% compared to a conventional body!

FRIGOLIGHT is the ideal solution for 3.5t or electric LCVs, with a significant gain in payload and energy savings, preserving their driving range.



NOMINATED



- > 100% copper brazed monobloc refrigerant channel
- > 100% waterproof: reliable and ecological
- > Optimization of incoming airflow for maximum condenser efficiency



- > Aerodynamic profiling of the body
- > 20% gain in SCx
- > -5 to -10% vehicle consumption depending on driving profiles



NEW TECHNOLOGY OF MULTI-COMPOSITE INSULATION PANELS

- > Several density structural foam
- > Multiaxial fiberglass coating

+ FRIGOLIGHT innovates by its research and development methodology, its concept and its panel technology:

- Vehicle + bodywork modeling followed by successive iterations
- All-in-one, body and cooling unit
- Multi-composite panels without metal or wood

+ FRIGOLIGHT offers, with constant insulation and mechanical resistance:

- 25% weight saving on assembled body + cooling unit
- An aerodynamic gain with a SCx reduced of 20%
- Optimized internal aeraulics implied by the position of the evaporator

+ Users benefit from more efficient, environmental friendly and less costly operations:

- Transport is optimized thanks to the increased payload
- Lower energy consumption and enhanced autonomy for electrical vehicles, at iso-loading
- The increased payload improves GVW compliance and safety.
- The "all-in-one" electrical cooling unit + bodywork design facilitates body transfers and fights obsolescence.
- Their 100% composite technology favors recycling of panels.

Research & Development partners of FRIGOLIGHT



VIDEO

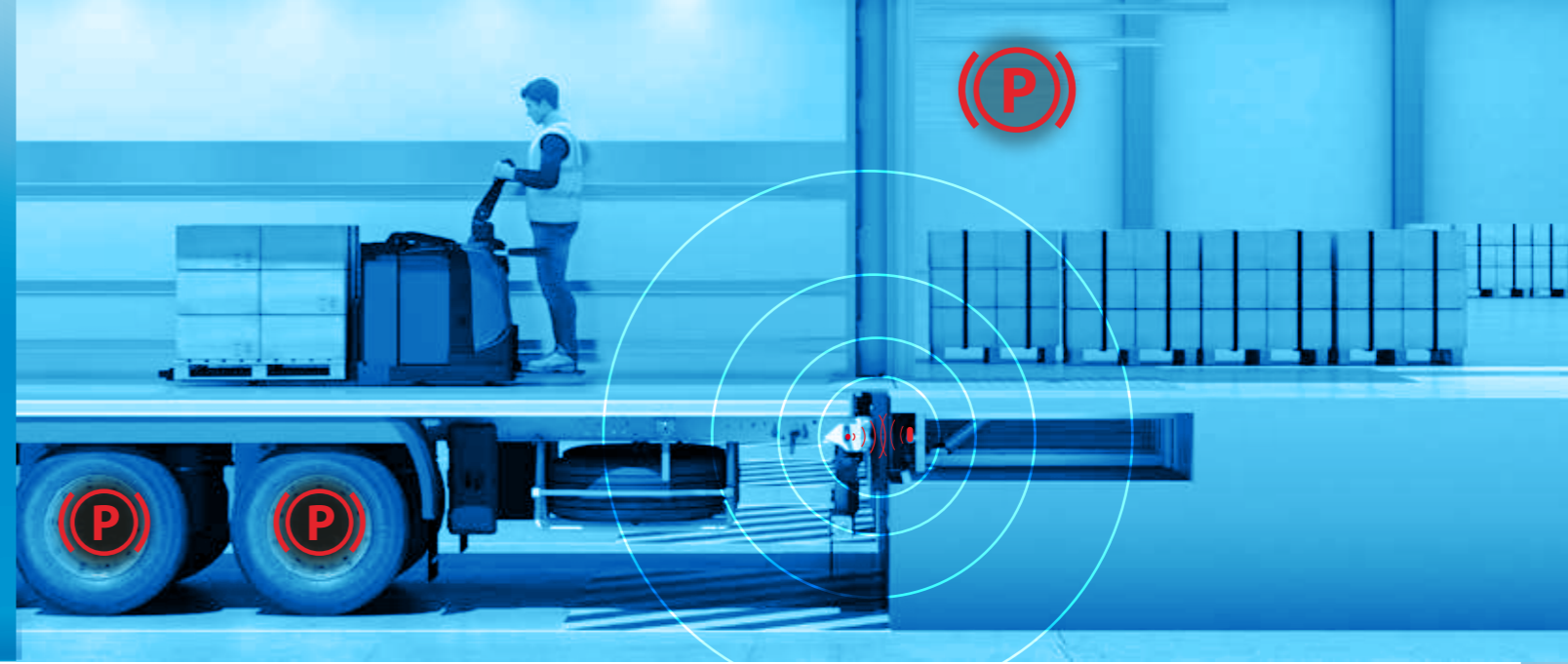




ADI AUTOMATIC DROP IMMOBILIZER



Securing docked vehicles by RFID technology



The major risk when loading vehicles at the dock is a departure while a handling machine is still operating inside.

The Automatic Drop Immobilizer developed by Lamberet innovates with its **automation based on an unprecedented implementation of RFID technology.**

When docking, the chassis chip is activated by the dock tag signal, released by the deployment of the leveling ramp. The brakes are then activated. When the dock operators remove the ramp, the signal is masked. Without a ramp, it is impossible to drive through with a handling machine: the ADI releases the brakes and authorizes a safe departure.

Lamberet's automatic ADI is reliable, affordable, and retrofitable on any semi-trailers and rigids, with or without taillift, whatever the brand. **The docks can be equipped without civil engineering or power supply.** Automated and maintenance-free, without risk of human error, ADI is a universal and accessible innovation that helps prevent accidents and saves lives.

- The Automatic Drop Immobilizer offers a real safety for the dock workers during the loading / unloading phases. Zero risk of accident by fall between dock and vehicle (loading) or vehicle and dock (exit) following an unexpected truck departure.
- Automatic solution without human intervention guaranteeing the safety of all staff in the dock/vehicle risk area.
- 100% autonomous, priority system: no required driver or dock worker intervention.
- Installation on the dock without civil engineering. TAG (mirror, signal return) without battery or power supply.
- Retrofitable system on all types of vehicles. Simple, economical installation, with control of the original braking functions. Adaptable to vehicles already in service.



Without Automatic Drop Immobilizer



1. Free docking manoeuvres



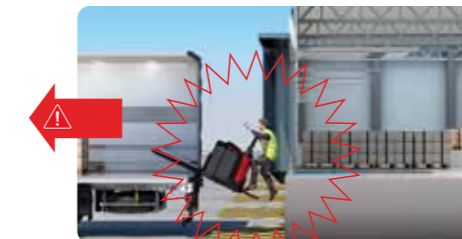
2. Docked vehicle, no safety



3. Ongoing loading operations, no safety.

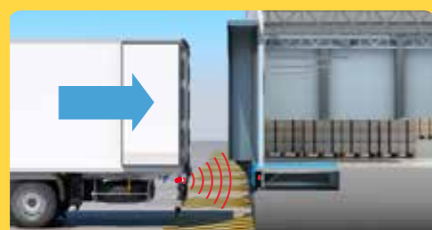


4. Dock operator going reverse, blind



5. **ACCIDENT** Unexpected vehicle departure taking the dock operator by surprise.

With Automatic Drop Immobilizer



1. Free docking manoeuvres



2. Dock ramp unarmed, no signal picked up by RFID radar, unlocked vehicle brakes



3. Dock ramp armed, TAG RFID visible and detectable, locked vehicle brakes



4. Brakes locked, loading operations are fully safe



5. Safety active as long as the docking ramp is armed



6. Dock ramp folded, TAG hidden, brake vehicle released. Authorized departure.

Safety of departure controlled automatically by the ADI system

AEROTAIL

Automatically deployed rear aerodynamic spoilers



The Aerotails are fitted on the rear door. These are simple, efficient aerodynamic appendages. Their deployment and concealment are automatic and do not require any additional action by the driver. When the doors are opened the Aerotails follow the rotational movement induced on the hinges and finish by being aligned and camouflaged against the side wall.

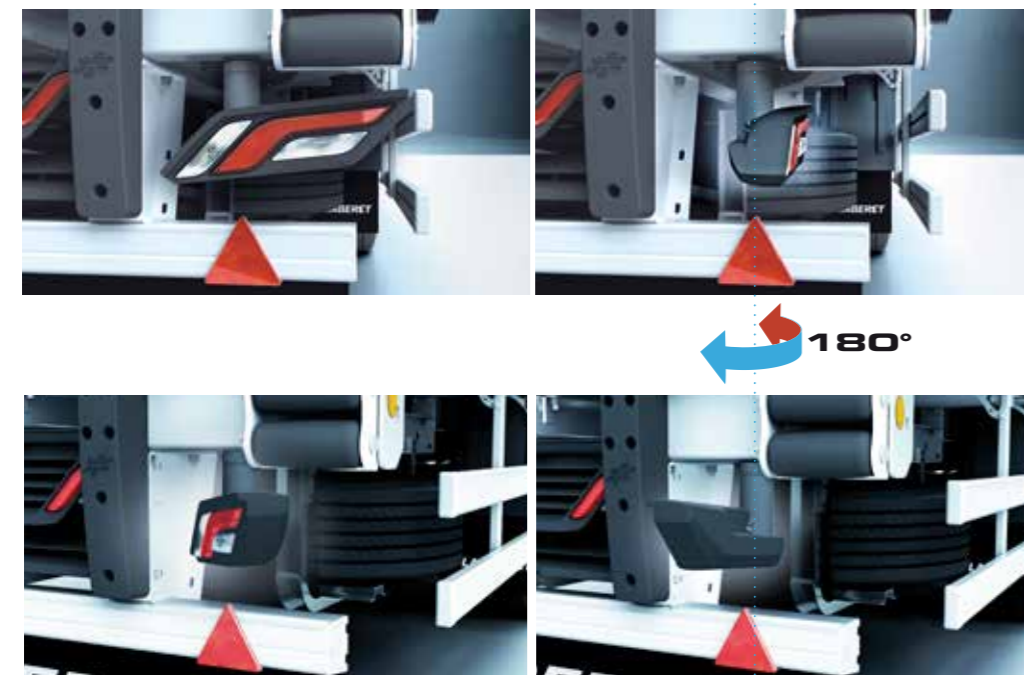
VIDEO



- Innovation : 100% automatic operation
- Exclusive technology for the lamberet double-action spring hinges
- Assisted opening and closing by the return spring
- Minimum of 1% saving in consumption with the distribution profile

SAFELIGHT

Rear LED signature on 180°-rotating breakage-resistant support



These rear lights designed for bodies for semi-trailers have a rotating breakage-resistant support at 90° towards the front and rear. The support returns to its initial position automatically after an impact. This freedom of movement reduces the risk of breakage increasing safety and also the service rate of your fleet, for which operation and maintenance costs on this equipment is radically reduced.

VIDEO



- Independent modules from the leading brand, hella shapeline
- 100% led technology with scrolling indicators
- Easy-maintenance: integrated superseal connector
- Exclusive rotating retraction system

SR2 FRESH₂

First multi-temperature reefer with cooling unit electrical supply by direct hydrogen fuel cell



The strength of this development is that it is the first to be able to do without an additional battery: it directly supplies the reefer unit with electricity with no buffer battery pack. It is also the first multi-temperature hydrogen reefer.

The major advantage of this hydrogen fuel cell technology is the cost reduction resulting from the absence of a buffer battery pack, a major weight-saver that can feasibly be mass-produced and mass-distributed. The trailer's electric cooling unit is powered in real time by the fuel cell.

Lamberet brings its added value by integrating the system into the chassis of the semi-trailer. In 2017, Lamberet was already demonstrating its ability to perform refrigeration conversions using a hydrogen fuel cell system, with the FrigoVan H2, the first hydrogen-powered refrigerated vehicle, winner of the Solutrans innovation award.

Lamberet goal is to meet all future operating constraints to make it an SR2 semi-trailer like the others, with the same equipment capabilities, same speed in operation, and so on. With our partner Bosch, Lamberet is also planning to design a "fuel cell pack" that will be retrofitable to SR2s already on the road.



NOMINATED



COLLABORATIVE PROJECT FRESH₂



BOSCH



LAMBERET



SR2^e

Multi-temperature electric rechargeable reefer, the distribution semitrailer of tomorrow.

SR2-e includes the latest generation of SAF TRAK'r axles equipped with a 33 Kw generator (one of the 3 electric axles on the semi-trailer). This generator recharges an on-board battery pack with a capacity of 19.2 Kw.h, allowing it to power a multi-temperature cooling unit equipped with 100% electric Carrier e-Cool or Vector hybrid technology.

The cooling unit can therefore be set to 100% electric mode when accessing urban areas or low-emission zones (LEZs), for example.

The cooling unit can be switched between recharge mode (permanent) and energy recovery mode. Recharge mode allows 100% electric operation of the cooling unit, but part of

the energy is then taken from the tractor, which can lead to additional energy consumption by the tractor.

The most interesting feature is energy recovery mode. For this purpose, the battery pack is pre-charged from standby supply, just like a rechargeable hybrid car. Thus, although the cooling unit can still be run on internal combustion when approaching city centres by major roads (motorways, express lanes), 100% electric mode can also be set as a priority. During the distribution phase, with a lot of slowing down and braking, the vehicle's kinetic energy is recovered and turned into electrical energy, recharging the battery pack on the road in order to power the cooling unit and the body's electrical peripherals.

SR2-e brings a new economic and ecological answer to the problems of mass urban distribution, as it is emission-free, while reducing the noise impact.



Kerstner e-COOJET 106

The new e-CoolJet 106 cooling unit is revolutionizing the refrigerated van landscape, both figuratively and literally.

This electric unit was produced through internal development initiated to account for the new WLTP standard. A 100% integrated, innovative concept, the compressor and condenser are installed under the chassis of the vehicle and are not housed on the ceiling. The van's original aesthetics, aerodynamics, and WLTP qualification characteristics are thereby preserved in full.

The evaporator built into the insulation - a Kerstner exclusivity - maximizes the useful height.

Another innovative feature: the power management capitalizes on the expertise developed for the Frigovan H2, the first fuel-cell-powered refrigerated vehicle presented in

2017 by Lamberet, which won the Solutrans Innovation Award. It offers the best energy efficiency on the market, with a COP (EER) of 1.55, for lower consumption of just 45 amperes. Voltage peaks during power draw phases, such as starting, are also smoothed.

This consumption is low enough to do away with or reduce the volume of heavy, expensive battery packs that are traditionally needed for electric units.

The KERSTNER e-Cooljet 106 is therefore particularly well-suited to alternative-energy utility vehicles like the Ford Custom hybrid, Mercedes E-Vito, Renault ZE, or the upcoming electric Citroën Berlingo, Opel Combo, and Peugeot Partner!

Thus, for the first time, Lamberet can offer a refrigerated conversion to an eLCV for the same cost as on an internal-combustion vehicle, with similar or superior performances.

Firs 100% integrated electrical cooling unit with ultra-low consumption, adapted to electrical vans.



Up to 5m³

944W 0°C / +30°C

COP 1.55

Mass 53 kg

Hot gas

+ Never-before-seen vehicle refrigeration technologies:

- Variable-speed electric hermetic compressor
- "Microchannel" exchanger condenser with lamellar surface
- Variable-speed fan and "longlife" bearings
- 100% brushless motors, with no carbon or belt
- Two-way communication with the vehicle
- And telematics via the bus-can
- Built-in monitoring and battery protection
- Easy maintenance; extended intervals (3000 hours)



FRIGOLINE HD

Renault Trucks D ZE 26t
FRIGOLINE HD



Full electric rigid with bodywork and cooling unit electrical supply by solar panels

This bodywork is associated with a 26t all-electric Renault Trucks D ZE straight truck, equipped with a 4-battery pack giving it a real range of 150 km. This solution is THE answer to responsible urban delivery: Zero gas emissions, Zero noise emissions.

To optimise the truckmaker's built-in electric range, Lamberet has equipped the roof of the refrigerated body with 6 solar panels. Perfectly integrated on the roof panel, these photovoltaic cells are 10 m² in size and deliver a power of 2400W at peak times. They provide a backup power source to the vehicle's batteries in order to run the cooling unit, tailgate, air curtain, overhead lights, and temperature recorder, and to charge the on-board pallet carrier.

The CARRIER TRANSICOLD TRS single-temperature cooling unit, Syberia model, 100% electric (without any gas or noise emissions, PieK certified), is ideal for a delivery run with multiple unloading points. With a power of 7000 W at -20°C / +30°C per the ATP agreement, alongside the automatic Distri+ roller shutter door from Lamberet, it enables reliable operation even with sub-zero freight!

KLEUSTER FREEGONES FRIGOLINE



Zero-Emissions refrigerated electrically power assisted tricycle

The final yard for the final mile delivery? It's easy with the new Freegone Frigoline and its refrigerated 1.5 m³! It is designed as an electrically power-assisted cycle.

Zero emissions, Zero noise and Zero congestion as it can use bike lanes. Its cooling unit and body are ATP-approved. Its new Frigoline cell offers an exceptional K coefficient of 0.31 and an innovative large rear opening, 'OT1'. Its electric drive propels it up to 18 km/h effortlessly and includes a hill-start assist and cruise control. The battery recharges in 5 hours from a single 230V 16 amp socket.

- Refrigerated body with rear innovative full opening ot1
- Traction and refrigeration charging coupled
- Reversing buzzer
- Complete lighting kit with recall at the top of the body

SR2 SUPER DUPLEX



PHARMA SAFE

In addition to our expertise in wide-track chassis (Superstable), double-deck loading (duplex) and certification according to the "Pharma" best practice GDP guide, this SR2 marks the début of the new rear design of the Lamberet semi-trailer chassis.

Lamberet has taken advantage of the enactment of the new R58-03 regulation that increases the safety of road users against the risk of rear underrun, to redesign the SR2 chassis. This feature was created in collaboration with a design firm in order to make this upgrade an opportunity to improve the unique look and aerodynamics of the Lamberet vehicle rear.

SR2 chassis are now equipped with an aerodynamic flap (air ducting and extraction). This feature is combined with "open" light brackets designed to reduce drag and air resistance. In addition to these features designed to reduce the vehicle's energy consumption, Lamberet has also devoted attention to the ergonomics of the functions on the rear and to its design. This reefer is equipped with Lamberet Safelight, the only anti-breakage light able to absorb shocks with either forward or backward rotation kinematics. The separation of the different functions of the lights allows for an economical one-off replacement in case of malfunction, unlike indivisible solutions which require a total replacement.

FRIGOLINE PRO BEEF

The specialist in hanging meat delivery.

Frigoline Pro Beef is the refrigerated body with a reinforced roof dedicated to distribution of hanging meat for vehicles whose GVWR is between 3.5 and 7 tons. In this configuration on An Iveco Daily chassis, ideally balanced, the driver benefits from a high level of safety with protected marking lights, a polyester non skid red-tinted floor, and a five-step access ladder. The meat rails include switches and are adapted to the logistic slaughterhouse center.

