

The strong link in the cold chain



de 1 à 100 m³

Lamberet at the SOLUTRANS 2013 show:
energy efficiency, productivity, and safety,
a preview of our innovations!

SFR
CX system

SFR
SUPER
BEETLE
+

SFR
SUPER
CITY

PORTEUR
HD
HEAVY DUTY

NEW
FRIGOLINE
PRO



IAFO
Internal Air Flow Optimizer





Saint-Cyr/Menthon, France, November 15, 2013

SOLUTRANS 2013 SHOW, LAMBERET: INNOVATION FROM 1 TO 100m³!

With its stand at this edition of SOLUTRANS featuring **7 vehicles, along with 1 dynamic testing model**, Lamberet will show off **an impressive range of new innovations for its entire product line**.

Lamberet is the only bodywork constructor for refrigerated vehicles to make **1 to 100 m³ models**, from Light Commercial Vans to chassis bodies to semitrailers to road-rail swap bodies.

According to CEO Erick Méjean, Lamberet's guiding principles for the expo will be "**energy efficiency, productivity, and safety**". "Our clients are facing pressure from high operating costs and tax increases in a poor economic environment. More than ever, we need to innovate in order to make operations more efficient and reduce fuel costs."

SR2 CX system

Lamberet is in line with the work by the European Commission aimed at creating an **energy efficiency label for industrial vehicles**.

The SR2 CX system fulfills the efficiency criteria **specific to the refrigerated vehicles segment**, in terms of outside aerodynamics, internal air flows, insulation and weight, which in the context of current regulations would fall under "**class A**" of that environmental label.

Proof through innovation: Making its European debut, the CX system concept changes both the fuel consumption of the vehicle as a whole, with special outside aerodynamics, and the consumption of the refrigeration unit, by improving internal air flows and the output of the compressor's heat engine.

Outside aerodynamics are optimized through the special design of the front face. It has a profile with a minimized radius of curvature and an extended outer edge, so as to laterally direct the air flow between the body and the tractor, while helping to ventilate the refrigeration unit and thereby improve its efficiency.

The airflow at the unit is directed downward, depending on how the cooling system operates, and a spoiler built into the front end of the chassis releases the hot air expelled by the refrigeration unit out from the sides, preventing a closed circuit from being formed.

These improvements reduce the vehicle's fuel consumption by about 3% under certain conditions.

The patented "Optiflow" side fairing, shaped like aircraft wings, turns disruptions in air flow near the chassis into thrust that saves 1.5 L per 100 km, as measured by an independent testing protocol recognized under the SAE J1321 type 2 standard.

The smooth rear that reduces disruptions in drag and **reduced dead weight** resulting from Lamberet's design (an average of one ton less for the SR2 trailer compared to a standard competing model) consolidate these gains.

The revolutionary patented "Internal Air Flow Optimizer" (IAFO) replaces archaic "closed" ventilation ducts.

When at full power, the IAFO system directs and compresses the air flow as it exits the blowers. That flow is immediately decompressed without any loss of force after it goes through a **nozzle** optimized to transmit almost all of its initial energy.

As a result, the powerfully directional flow is ejected at a very high speed, which must be preserved for as long as possible. This is where the **IAFO system's air guides** come in. These comma-shaped guides direct the air flow without any air-flow power losses.

This concept, a major departure from anything that existed before, is the product of a brand-new, ultraprecise, realistic simulation. This study commissioned by Lamberet combines actual measurements with a **finite element model that includes a 4,512,000-cell tetrahedral structure**.

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The IAFO system thereby ensures a **flow of cold air all the way to the rear of the load area** and encourages upward air **recirculation**. This action **homogenizes temperatures** regardless of the load's position.

As a result, the temperature setpoints are more reliable, avoiding the risks of rejected merchandise, and the refrigeration fuel consumption is reduced on average by 0.5 L/h at -20°C.

Erick Méjean: "We were very surprised by the result, which led us to the opposite conclusion from that we had initially expected to do. The air ducts and conduits currently in use in the industry actually have an extremely negative impact on the power of the air flow. Our model shows this unambiguously. Our innovation is squarely aimed at eliminating or minimizing the rejection of merchandise for failure to stay below the setpoint, which had become increasingly common in recent years and is very problematic for carriers. The power of the IAFO system's air flow enables temperature homogenization within the body by eliminating the "hot spot" that normally forms in the rear, regardless of what the load is."

Better safety for the driver: The design of the CX system also makes the driver safer and improves ergonomics.

The CX system's anodized aluminum profiles act as "markers" for the trailer's sides in the driver's rear-view field, which can be a boon to refrigerated vehicles, as they can be 2.60m wider than other vehicles.

This new front also allows the optional installation of a new **sliding headrest system installed on a low-friction rail**.

The headrest can be extended further than any earlier kind, and doing so is easier than ever. The driver no longer needs to go between the tractor and trailer during the coupling maneuver.

All in all, in certain operating modes, the SR2 and CX System combine to reduce total fuel consumption during refrigerated transport by 2.5 to 3 L per 100 km!

Lamberet will **outfit its entire line of semi-trailers and rigids bodywork with the new CX front system**, as a standard feature and at no extra cost, beginning in January 2014. "Optiflow" fairing will be an optional feature for the client.

In addition to the new CX front system shared by the entire product line, Lamberet is exhibiting major upgrades to the two top sellers in its semi-trailers range:

SR2 SuperBeef+

Designed for transporting hanging meat, SR2 SuperBeef, **winner of the Innovation Prize during the most recent edition of Solutrans**, comes back in a "**SuperBeef+**" version in which the floor and chassis front have been completely redesigned to **provide even more stability while raising the inside height to 2.70m, without exceeding the overall 4m00** regulatory limit. All this comes without requiring any non-standard tires or coupling height.

The chassis is improved with 4 bolted modules instead of 3; the connecting rods between the axle module and front module have been replaced by a new module with edges that extends the absorption of side loads into the wheelbase. This innovation keeps the floor from becoming transversally warped when a maximum load is applied to it. Incorporating 4 load absorption edges into the chassis in this area also preserves the exceptional stability that has made the Lamberet SuperStable chassis a success.

Erick Méjean: "This effectively addresses the requests of our customers who want vehicles optimized for flawless international use with demanding hanging meat loads, while remaining effective in "pallet" mode thanks to a high internal height beneath the hangers."



SR2 SuperCity

SR2 SuperCity, **winner of the "Trailer Award 2013" at the most recent IAA expo**, is made for distribution in hard-to-reach areas (hyper-urban areas, or big box stores and supermarkets whose unloading docks require complicated maneuvers).

Its **two electrohydraulic steering axles give it handling typical of a medium-tonnage rigid truck**.

For the Solutrans expo, it has been outfitted with a system of cameras, giving the driver a peripheral "bird's-eye view" of his or her vehicle. Developed with the supplier MOTEC and fully integrated, the system enables the driver to make full use of the SR2 SuperCity's exceptional handling under safe conditions.

SR2 SuperCity will be exhibited in France for the first time, and will also be **available for testing on SOLUTRANS' dynamic track**: a brand-new experience within reach of everyone!

Another strategic range for Lamberet, a major player in this field, is refrigerated bodies made for rigid trucks.

New HD refrigerated bodywork for rigid truck

The HD rigid Truck concept, based on new Renault Trucks D, is a preview of **Lamberet's new products in this segment of 12-to-26 ton vehicles**, which will go on the market in 2014.

This body has the **new CX system front** that prevents an aerodynamic vortex from being created between the truck's cab and the body, optimizing the vehicle's overall drag coefficient. As on semi-trailers, the unit's output from its supply into fresh outside air is also optimized.

This vehicle also introduces a **new rear HD (Heavy-Duty) frame design**, a product of Lamberet expertise: **bolted**, without welding and with no outside fasteners, based on a skeleton of extremely strong THLE steel gussets. Using aluminum for rigidity and lightness, all of the impact or wear areas are made of stainless steel. In order to meet increasing customer demand, this new frame will be included at no additional cost in **doors with built-in locking gears and stainless steel double-acting hinges**. This Lamberet-patented technology makes it possible to save several centimeters of useful length for greater ease when loading, and preserves **the doors from the docking bay buffers**: the door leaves are an additional 4cm away from the impact zone when docking and loading.

The new HD frame technology meets multiple goals:

- **Weight management**, in order to benefit the load capacity and directly reduce the truck's fuel consumption. To do so, the HD frame includes a top crossmember and vertical beams made of extruded aluminum, a material recognized for its rigidity and lightness.
- **Limit racking**, which with time can warp the body: the entire frame is assembled on a skeleton of THLE steel gussets, which gives it exceptional rigidity and strength. The gussets also act as a thermal break in order to keep stress due to racking or shocks from entering the frame's corners.
- **Withstand** shocks and wear: to do so, all of the areas that absorb force are made of stainless steel, like the threshold, or coated with aluminum, like the frame's vertical beams. The stainless steel absorbs the shocks that can occur during loading. The frame is tripled with rubber bumpers for absorbing shocks while docking. During these operations, the double action of the hinges also keeps the doors away from the impact zone.

This new HD refrigerated bodywork for Rigid truck will disrupt the market by introducing the newest technologies developed by Lamberet on refrigerated semi-trailers.

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Light Commercial Vehicles

In this market segment energized by the development of home deliveries and a search for increased safety both when transporting food items and in the medical sector, Lamberet is **the only manufacturer that can provide small vehicles with the innovation and expertise needed for industrial lines of vehicles.**

This makes it a key product line for Lamberet, which gained 3 points of market share in this segment in France in 2013, reaching 22% against a multitude of small players. At Solutrans, 3 new models will be unveiled, in each subsegment: **vans, cab floors, and cab chassis.**

New Mercedes Sprinter chassis with NEW FRIGOLINE PRO refrigerated box:

Lamberet, in partnership with Mercedes, is presenting the refrigerated version of the **new Sprinter chassis**, with an upgrade of the **NEW FRIGOLINE PRO** body.

The front is now equipped with **aerodynamic profiles from the CX system** for better drag, reducing fuel consumption. The NEW FRIGOLINE PRO was developed for all floors and cab chassis on the market, from 2.5 to 7.5 tons. Its design combines **cutting-edge technologies tested and proven on Lamberet semi-trailers** by leading transport companies while preserving their **carrying capacity**: A frame that combines aluminum, THLE steel, and stainless steel for both less weight and exceptional strength ; a high level of insulation ; ease of maintenance and repairs ; ergonomics designed for the user's comfort, particularly with easier-opening doors thanks to the new "easy-handle", and the two-slope threshold.

New Peugeot Partner cab floor:

This refrigerated top seller, whose base accounts for more than one hundred fifty annual sales for Lamberet, comes in its new livery, equipped with a refrigerated body enhanced by a **side door**. This feature makes deliveries easier, and allows **two-temperature and three-temperature** versions needed for **pharmaceutical transport**.

With a new **air deflector for the cab**, this vehicle is even more economical (less air resistance in the body, and thus less fuel consumption) and gives the caterers and restaurateurs who use it a positive image.

New Renault Kangoo Maxi

For "last kilometer" carriers, the "Maxi" version of the new **Renault Kangoo van** will also be featured. This van comes with a reinforced insulating cell that has an **aluminum floor**, a **side door**, and a **"reinforced"-quality insulation certificate**.

This combination is the only one of its kind in the refrigerated van market.

This version can accommodate any type of refrigeration units, **embedded in the roof** to preserve aesthetics and minimize overall height: Kerstner, Carrier, Thermoking, EDT, in electrical versions but also motor pulley versions suitable for temperatures below 0°C.



The launch of Lamberet's new on-board built-in telematics: FRIGOMATICS

Lamberet has partnered with the on-board telematics specialist NOVACOM Europe.

The goal of this partnership is to integrate the tools needed for carriers to optimize their use of the equipment once it is financed and manufactured.

At Lamberet's Solutrans stand, the SR2 CX system is therefore equipped with a **full onboard system including vehicle geolocation, setpoint temperature and loading zone monitoring, axle load, and tire pressure!** All of the data is accessible in real time in the form of reports or alerts sent directly to the driver and/or operator in the form of their choosing (text, email, etc.)

The GPRS-driven **TPMS** (tyre pressure management with geolocation) concept is also featured by Lamberet on the SR2 CX system, since it plays an active role in reducing fuel consumption due to overinflation, and for this reason is fully in line with the CX system approach. This same service helps reduce service costs resulting from flat tires by detecting a slow puncture early on.

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Now you know why SOLUTRANS 2013 is a special event for **LAMBERET**, as it demonstrates the **added value of its specialty product line: one client, one industry = a dedicated, innovative product.**

Lamberet is the only bodywork constructor able to provide a turnkey refrigeration solution that is also customized for the client on all vehicle lines, from 1 to 100 m³: insulation + refrigeration + telematics.



Get high-definition photos of our innovations from our online server:

<https://app.box.com/s/rzoania00qw5xbcvbsru>

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