

Press release

CO₂-free refrigeration: Kögel eCool generates its own “green energy”

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The Kögel eCool refrigerated trailer converts kinetic energy back into electricity using a recuperation axle. This allows the cooling unit of the trailer to be powered electrically, making it low-noise and CO₂-free . In addition, the trailer has solar modules and side panels that further increase its efficiency. Accordingly, the trailer is an important contribution to sustainable temperature-controlled transport.

The European logistics industry is facing major challenges. These include the prevention of CO₂ emissions in road transport and reduction of operating costs. Kögel helps its customers to meet these requirements with innovative transport solutions – in accordance with its company promise, “Economy meets ecology – Because we care”. At the IAA Transportation 2022, Kögel will present the Kögel eCool refrigerated trailer from the Kögel Cool - PurFerro quality series, equipped with a fully electric and therefore Co₂-free,2-free cooling device. The trailer not only reduces diesel consumption and the associated emission of CO₂ and other pollutants in the overall footprint of the trailer and tractor unit; it also contributes to lower noise emissions and cheaper operating costs.

Expert partnership makes practical innovation possible

Kögel developed the trailer together with trailer axle manufacturer SAF-HOLLAND, the solar cell manufacturer SONO Motors, and the specialist in refrigerated transport, Carrier Transicold. An essential component of the Kögel Cool is the TRAKr recuperation axle from SAF-HOLLAND. An electric generator in the SAF TRAKr trailer axle converts kinetic energy during travel, for example, in the towing vehicle's overrun phases, and

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buffers it as electric current in a battery on the trailer. The electric current is then used to operate the refrigeration unit electrically. The generator switches on at speeds of more than 15 km/h and is then able to generate an output of up to 17 kW.

Up to ten hours of fully electric operation

The fully electric HE 19 E cooling device is supplied by Carrier Transicold. The specialist in refrigerated transport also supplies the battery pack that stores the recovered electrical energy to power the cooling unit. The exhibition vehicle has a capacity of 23 kWh, of which 18.4 kWh are available to power the cooling device. That is enough for around seven hours of operation with an average consumption of 2.7 kW. For higher requirements, there is also a battery variant with 34 kWh of storage capacity available, which offers an operating time of around ten hours.

Battery can also be charged at stationary power sources

The battery can not only be charged through recuperation. It is also possible to fully charge the battery in about two hours at stationary power sources before setting off, or during loading and unloading.

Kögel eCool generates “green energy” with solar cells

The trade fair trailer is also equipped with solar cells from SONO MOTORS on the roof of the body. With these, the trailer generates its own “green energy”. With the average number of hours of sunshine typical for Germany, the solar cells generate 11.8 kWh of CO₂-free electricity per day.

All-electric drive enables lower operating costs

During fully electric operation, the refrigeration unit requires no conventional fuel and does not emit any pollutants or CO₂. Depending on the use of the trailer, the overall consumption of the semi-trailer combination can be reduced by two to three litres of diesel per 100

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kilometres. This also means lower operating costs. Further benefits of the system include lower noise emissions and wear. As a result, the Kögel eCool with fully-electric refrigeration unit is also suitable for night-time deliveries in inner cities and opens up additional business models and greater freedom in vehicle scheduling. In addition, the significantly quieter all-electric system ensures greater comfort and does not disturb the sleep of truck drivers at the rest area.

Side panels further reduce diesel consumption

Fuel consumption is further reduced by the Optiflow side panels from Wabco, which are installed on the exhibition trailer. Their aerodynamic design additionally saves as much as 1.5 l/100 km in diesel. The easy-to-install side panels with integrated side marker light can be painted in many different colours to match the customer's company colours.

Chassis of all Kögel Cool PurFerro quality trailers now even more robust

The PurFerro quality body bears the distinctive signature of the Burtenbach-based manufacturer, as shown by the anti-corrosion, liquid-tight, low wear and low-noise aluminium floor trough and ageing-resistant, robust and vapour diffusion-proof sandwich panels with steel coating. Thanks to its solid construction, the refrigerated box from Kögel embodies maximum value retention and is easy to repair. With an intelligent trick, commercial vehicle manufacturer Kögel has optimised the strength of the chassis in time for IAA Transportation. To achieve this, the engineers have pulled the rear diagonal reinforcements on the protective bumper at the back further outwards. This enables more effective transmission of force into the side members when docking on the platform, and reduces strain on the chassis and body.

Know-how of Kögel and its partners secures benefits

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“At Kögel, we not only want to help to make transport and logistics processes efficient, but more environmentally and climate-friendly as well. We have the expertise, the industry knowledge, suitable transport solutions and the right partners to achieve this,” explains Christian Renners, CEO of Kögel Trailer GmbH.

Company profile

Kögel is one of the leading trailer manufacturers in Europe. With its commercial vehicles and transport solutions for freight-forwarding companies and the construction industry, the company has been providing “made-in-Germany” engineering quality for more than 85 years. Kögel sees itself as having a responsibility to design transport and logistics processes in an environmentally and climate-friendly manner in consultation with politicians and customers. The company’s guiding principle “Economy meets Ecology - Because we care” is a promise: Kögel supports all customers with outstanding expertise, in-depth industry knowledge and, above all, durable, ecologically and economically sustainable products in lightweight construction. The company headquarters and main production facility of Kögel Trailer GmbH are located in the Bavarian town of Burtenbach. Kögel also has factories and sites in Ulm (Germany), Duingen (Germany), Choceň (Czech Republic), Verona (Italy), Gallur (Spain), Kampen (Netherlands), Corcelles-en-Beaujolais (France), Schärding (Austria), Padborg (Denmark) and Moscow (Russia).

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