

Interschutz 2022: Rosenbauer presents the PANTHER electric



- *Production-ready concept vehicle shows the future of the ARFF vehicle*
- *Same performance as the classic PANTHER with better acceleration*
- *Intensive user involvement from the first to the last development step*

Rosenbauer showcases the first PANTHER 6x6 with electric driveline at Interschutz. The development process was started two years ago, after the need on the part of the customers became more and more apparent. The International Air Transport Association (IATA), the International Civil Aviation Organization (ICAO), the Airports Council International (ACI), and the U.S. Federal Aviation Administration (FAA) have all agreed on the goal of net zero emissions by 2050 in global aviation. Most airports have even more ambitious goals: According to the ACI, some 100 want to be climate-neutral as early as 2030, including, for example, Amsterdam, Delhi, London City, Marseille, Rome, Vancouver and all Norwegian and Finnish airports. The ADV airports in Germany are aiming for a joint CO2 reduction of 65%, and by 2045 they want to have achieved the goal of "climate neutrality". The electrification of ground support (ground vehicles), which includes the fleet of ARFF vehicles, promises to be one of the biggest levers in this regard. Rosenbauer is also convinced that this measure will play a key role in the "green recovery" of airports after the Covid 19 pandemic.

Safety and performance

Airport operators and fire departments from all over the world were involved in the design of the PANTHER 6x6 electric right from the start. Rosenbauer could not and did not want to do without their know-how; moreover, they have very precise ideas about what their most important piece of operational equipment must be able to do - regardless of how it is powered. Safety is also the top priority for the PANTHER electric, and there can be no compromises in performance either. On the contrary, fire departments expect an electric driveline to make their vehicles more agile and faster in the same way as a passenger car. It was clear from the very beginning that the PANTHER electric had to meet all global standards for ARFF vehicles and that no compromises would be made with regard to the performance of the overall system, even in purely electric operation.

New system partner

In general, the development of the PANTHER 6x6 electric was only made possible by the fact that drivelines, on-board networks and electrical components are now available that can also meet the high performance requirements of an ARFF vehicle. After all, an emergency vehicle weighing up to 39 tonnes must be able to accelerate like a race car and be piloted at high speed over an airport. Despite the increasing electrification in the commercial vehicle sector, the required electrical power demand proved to be a challenge.

Rosenbauer has therefore decided to create its own e-drive platform for the PANTHER electric in order to get the best out of the electric components. Rosenbauer's development partner is Magna, one of the world's largest automotive suppliers and mobility technology groups. Thanks to many developments in the field of e-mobility, Magna also enjoys the reputation of a globally recognized development partner in the field of alternative drive systems. Rosenbauer and Magna will further develop a scalable modular system for the PANTHER, which can be used to electrify not only the PANTHER 6x6 but also other variants in the future. The modular system essentially consists of three or four subsystems: a central gearbox, the actual electric driveline, a gearbox for electric pump operation and a so-called fallback level with range extender.

The scenario of the future

In the future, the PANTHER 6x6 electric will be able to handle around 90% of all operations purely electrically. The high-voltage batteries on board provide sufficient energy for the two to three-minute journey to the operational scene, the deployment of the entire supply of extinguishing agent and the return journey in accordance with ICAO specifications. Calculations show that one battery charge can be used to complete several operational or movement journeys, which is particularly advantageous in training operations. The Rosenbauer Range Extender offers the possibility of providing additional electrical energy in the system, for example to increase performance in the short term or to extend the operating time. In boost mode, for example, acceleration from 0 to 80 km/h can be reduced to less than 20 seconds, and even in normal mode the PANTHER electric accelerates faster than a classic 6x6.

The high-performance pump in the PANTHER 6x6 electric can be operated either electrically or in combination with the Range Extender; the extinguishing system performance (pump, foam proportioning, turret) is the same as in the conventionally powered vehicle.

With the appropriate charging infrastructure, the batteries are charged at up to 250-300 kW, which means that the vehicle is ready for the next electric operation after only about 25 minutes, without having to activate the range extender.

Refined design

The PANTHER 6x6 electric also has a slightly refined design.

Compared to its predecessor, it emphasizes the sheer power and permanent operational readiness of the vehicle with a somewhat more angular and aggressive front as well as clear, simply defined lines and surfaces. A new lighting concept from the airfield projector lamp and the scene lighting to the rear lighting makes the PANTHER electric more visible and safer. The paintwork of the technological leader symbolizes the transition from the last PANTHER generation, presented at Interschutz 2015, to the new one. At the front, the PANTHER 6x6 electric is still decorated in black, similar to the trade fair vehicle at the time. From the rear, practically from the engine compartment, comes the new energy, which is expressed with the color turquoise.

The next steps

The transition of the concept vehicle to series development will take place over the next two years, with sales of the PANTHER 6x6 electric starting in 2024. For the pre-series, too, Rosenbauer will cooperate with innovation partners, as it has successfully done with the RT, and will incorporate the findings from the test operations under real conditions into the development work and the set-up of series production.

The Rosenbauer Group

Rosenbauer is an international group and a reliable partner to fire services around the world. The company develops and produces vehicles, fire extinguishing systems, fire and safety equipment and digital solutions for professional, industrial, plant and volunteer fire services and systems for preventive firefighting. Rosenbauer is represented in approximately 120 countries by a sales and service network. With revenues of € 975.1 million and around 4,100 employees (as of December 31, 2021), the Group is the world's largest firefighting technology provider.

For further information, please contact:

Rosenbauer International AG
Tiemon Kiesenhofer,
Head of Communications, Company Spokesperson
Paschinger Strasse 90
4060 Leonding, Austria
Tel.: +43 732 67 94-568
Fax: +43 732 67 94-94568
E-Mail: press@rosenbauer.com
www.rosenbauer.com