

Most efficient extinguishing system to safely, efficiently and rapidly bring burning vehicle batteries under control

Fighting a Vehicle Battery Fire with AVL Stingray One

AVL List GmbH has developed an efficient extinguishing system for burning vehicle batteries. This innovative system effectively fights battery fires, which can occur in crashes, when charging, in underground garages, and in other incidents.

Graz, Austria, October 21, 2021: Today there are more than ten million battery electric vehicles registered all over the world. But how do we react when vehicle batteries catch fire and the fire services – and car park operators, for example – need a reliable solution?

Based on its knowledge in the field of battery research and development, attained over many years, AVL has developed an innovative system – AVL Stingray One. This ground-breaking system allows emergency personnel to safely, efficiently and quickly bring vehicle battery fires under control.

When a battery catches fire, you get a so-called “thermal runaway”, which triggers a chain reaction. The temperature of the battery rises extremely quickly, and the energy saved in the battery is released suddenly. Thanks to a patented nozzle system, AVL Stingray One directly penetrates the battery and cools the individual battery cells. In doing so, it stops these cells from igniting and ensures that the system is returned to a safe condition. The targeted application of the extinguishing agent allows efficient cooling with minimum water consumption.

The revolutionary system is the result of AVL’s consistent research in this field. It is easy to control and operate. It consists of one unit, to which only the hose from the fire truck or a hydrant must be connected.

AVL Stingray One can be mounted in a few easy steps and activated from a safe distance. This reduces the amount of time emergency services must spend within the immediate danger zone to a minimum. The system is designed for multiple applications and can be used either inside the vehicle or from outside. Another possible application is the stationary mounting of the system in underground garages.

AVL has been developing drive systems for electromobility for over 20 years. The long-term partnerships and global cooperation with customers in the field of battery development made it possible to test the system in many fire tests with a wide range of battery types from different vehicle manufacturers. According to AVL project leaders Markus Elsner and Heinrich Stader, the positive feedback from customers and development partners confirm that the system is ready to go into production. From the outset, the AVL fire department and the professional fire brigade in Graz have been involved in the development process. The cooperation with the Graz fire brigade has been particularly instrumental in ensuring that the system, and the way it is operated, are ideally designed to be used by fire brigades.

AVL Stingray One is an innovative new product to rapidly, efficiently and safely bring burning vehicle batteries under control in various cases, such as crashes, at charging stations and in underground garages.

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About AVL

With more than 11,000 employees, AVL is the world's largest independent company for development, simulation and testing in the automotive industry, and in other sectors. Drawing on its pioneering spirit, the company provides concepts, solutions and methodologies to shape future mobility trends. AVL creates innovative and affordable technologies to effectively reduce CO₂ by applying a multi-energy carrier strategy for all applications – from hybrid to battery electric and fuel cell technologies. The company supports customers throughout the entire development process from the ideation phase to serial production. To accelerate the vision of smart and connected mobility AVL has established competencies in the fields of ADAS, autonomous driving and digitalization.

AVL's passion is innovation. Together with an international network of experts that extends over 26 countries and with 45 Tech- and Engineering Centers worldwide, AVL drives sustainable mobility trends for a greener future. In 2020, the company generated a turnover of 1.7 billion Euros, of which 12% are invested in R&D activities.

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