



RFC Battery extinguishing system

Portable Battery extinguishing system.

Simple. Accurate. Efficient.

 **rosenbauer**

Efficient procedure. Safe extinguishing.

Fast and safe extinguishing of battery fires in electric vehicles

The Rosenbauer Battery extinguishing system enables rapid, resource-saving extinguishing of battery fires in electric vehicles. A pneumatically driven extinguishing spike penetrates the battery housing, delivering extinguishing water directly into the battery's interior. This precision minimizes the use of extinguishing agents and combats the formation and spread of smoke. Furthermore, because the system can be triggered from a safe distance, the time emergency services are present in the vicinity of the danger zone is minimized.

Safe operation

The system is activated via a control unit. The hose unit enables a distance of approximately 8 meters to the vehicle. This provides plenty of safety.

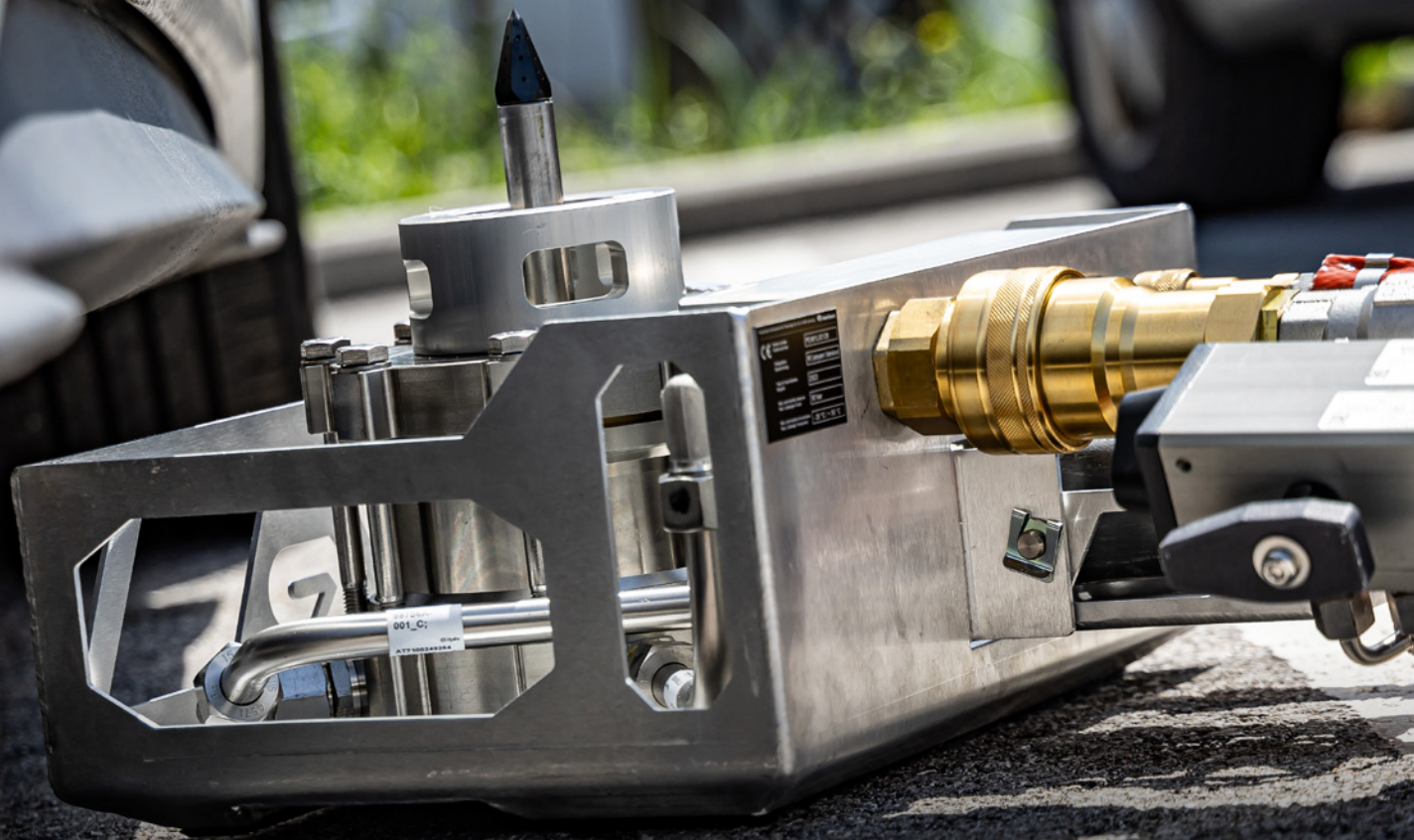
Rapid deployment

Depending on the situation, the Battery extinguishing system can be positioned on the vehicle in under a minute. Furthermore, direct cooling of the internal cells takes effect very quickly.

Flexible application

Regardless of where the battery is located and whether the vehicle is upright, on its side, or on its roof, the RFC Battery extinguishing system can be used in any scenario.





How it works ...

... with normal pressure

Water is used as the sole extinguishing medium, with a pressure of 4–15 bar being sufficient. This is supplied via standard hose couplings.

... independent of a power supply

The energy that allows the extinguishing spike to penetrate the battery is provided by compressed air cylinders and is independent of any vehicle or electrical supply.

... maximum efficiency

The extinguishing system introduces water directly into the battery cells. This ensures minimal consumption of extinguishing agent and low smoke generation.

Can be used anywhere. Always reliable.



Can be used with all vehicle types

The RFC Battery extinguishing system can be used on both fully electric vehicles with the battery between the axles, as well as hybrid vehicles with the battery situated under the floor of the trunk.

Extinguishes in all vehicle positions

If access from below is not possible, the battery can also be extinguished from inside the vehicle. Even if a vehicle is lying on its side or roof after rolling, the Rosenbauer Battery fire extinguishing system can be used without any difficulties.



Duration of the extinguishing process

The flooding time depends on the battery size and architecture, and can range from 10 to 60 minutes.

Also suitable for quarantining

The extinguishing unit can also remain in the battery after the extinguishing process has been completed. This ensures that water can be quickly pumped back into the battery housing in the event of another fire outbreak. Securing to the vehicle by means of a tensioning strap is sufficient for this.





Successful extinguishing in 3 steps

1 Position the extinguishing unit

The extinguishing unit is positioned below or above the battery, allowing for direct and rapid penetration into it. If necessary, the vehicle can be lifted with a jack or spreader, for example. When entering through the interior, the extinguishing unit is supported by the bodywork. This can be achieved with, for example, infinitely adjustable supports or a hydraulic rescue cylinder.

2 Activate the Battery extinguishing system

Once the extinguishing unit is fixed in place and the water supply has been established, the Battery extinguishing system can be activated via the control unit using the compressed air cylinders. Penetration by the extinguishing spike is initiated at the press of a button. Flooding of the battery housing begins immediately, thereby initiating the cooling process.

3 Check the temperature

The success of the firefighting measures should be checked regularly. A thermal imaging camera is best suited for this.



The RFC Battery extinguishing system on the same page.

Special extinguishing technology is required to efficiently extinguish battery fires in electric vehicles. Therefore, Rosenbauer has developed a simple, safe, and resource-saving solution with its Battery extinguishing system, which optimally supports fire departments in this task.

High-efficiency extinguishing system

The RFC Battery extinguishing system uses only water to extinguish fires. Furthermore, the extinguishing process does not occur from the outside, as with conventional fires, but directly inside the source of the fire, i.e., inside the vehicle battery itself. This ensures optimal cooling of the battery cells, thus reducing the formation of gaseous smoke to a minimum. Unlike external extinguishing methods, this technique is highly efficient. This means that less water is used and less contaminated wastewater is produced.

Easy to use

The procedure is very simple, with the application of the extinguishing system likewise straightforward: The extinguishing unit with a pneumatic extinguishing spike is fixed directly above or below the vehicle battery, so that the extinguishing tip penetrates the battery when activated. An 8-meter-long hose package, specially protected against heat, supplies the extinguishing unit with water via standard couplings. The separate control unit is equipped with compressed air cylinders that supply the energy needed by the extinguishing spike. Thus, the entire battery extinguishing system functions independently of an electrical supply. As soon as the spike penetrates the battery, it is automatically flooded with water, thus slowing down the thermal reaction and eventually stopping it completely. A water pressure of as low as 4 bar is sufficient for using the system. Therefore, the pressure from a hydrant system, vehicle pump, or portable fire pump is all that is needed.

A range of positioning options

In standard operating conditions, the vehicle stands on its wheels. The extinguishing unit is usually positioned below the battery. Due to different ground clearances among vehicles, it may be necessary to lift the vehicle, then lower it again over the extinguishing unit. This can be done quickly and easily by a team equipped with breathing apparatus using equipment carried by all firefighting crews. If the

vehicle has a ground clearance of more than 20 cm, the height can easily be compensated for, for example, by using wooden material. If the vehicle fire is already so severe that the tires have been affected, it will usually no longer be necessary to raise the extinguishing unit.

If the vehicle is lying on its side and entry from the interior proves difficult, a jacking system can also be used. The extinguishing unit can also be fixed to the battery in order to pierce the underside of the battery pack.

If penetration via the underside of the vehicle is not possible, the extinguishing unit can also be deployed from above, i.e., via the passenger compartment. The footwell on the passenger side is best suited for this. The extinguishing unit is supported on the vehicle body by an infinitely adjustable support.

If a vehicle has come to rest on its roof after a rollover, entry via the interior is also the best solution. In such a scenario, the extinguishing unit is also fixed in place using an infinitely adjustable support.

Hybrid vehicles with the battery in the trunk

While the battery in most purely battery-powered electric vehicles is integrated into the underbody of the car body, batteries in hybrid vehicles are usually installed in the trunk or under the rear seat bench. In such cases, the extinguishing unit should also be positioned above the battery and supported on the bodywork by means of an adjustable support.

Flooding time, temperature checks, and storage

Depending on the size and design of the vehicle battery and the water pressure, the battery housing will be completely flooded in 10 to 60 minutes. The effect of the extinguishing measure should be checked regularly both during and afterwards. The best option for this is a thermal imaging camera.

After the extinguishing operation ends, the extinguishing unit of the RFC Battery extinguishing system can remain embedded in the battery for safe storage in quarantine. The unit only needs to be secured with a tensioning strap. This ensures that in the event of a subsequent thermal reaction in the battery cells, water can be quickly pumped back into the housing.

Do you want to learn more about the RFC Battery extinguishing system? Then visit rosenbauer.com or scan the QR code.



