

A high-speed train, primarily blue and white, is captured in motion at a station platform. The train is moving from right to left, creating a sense of speed. The platform has a yellow safety line. The background shows a sunset sky with a bright sun low on the horizon, casting a warm glow. The train has a '2' class sign and accessibility symbols (bicycle and wheelchair) on its doors.

RAIL VEHICLES

FIREFIGHTING WITH HIGH-PRESSURE WATER MIST

AQUASYS

THERE IS AQUASYS TECHNOLOGY IN HERE

In passenger compartments

The safety of passengers travelling by train is always the top priority. Intelligent detection systems make it possible to detect fires at an early stage, while efficient firefighting systems ensure that passengers can be evacuated rapidly away from the danger zone. The water mist used in our firefighting system is harmless to people, which makes it the ideal agent for extinguishing a fire in a passenger compartment. The system can accommodate different designs of carriages and compartments to provide targeted protection against specific sources of danger while also meeting aesthetic requirements.

In technical areas

In rail vehicles, it is also imperative to protect electrical switchgear, diesel engine rooms and drive systems. The potential risk of fire in these places is often high because they contain oils, lubricants and fuels.

The outstanding extinguishing effect of our water mist allows it to be used in many different applications for fire classes A, B, C and F. For areas where there is an electrical hazard, aerosol can also be used alongside High Pressure Water Mist as a suitable agent for extinguishing fires.

FIREFIGHTING IS RESPONSIBILITY

COMPACT AND SAFE

Rail vehicles present high demands when it comes to firefighting, both in an emergency and in day-to-day operation. To meet these demands, we have developed a weight-optimised firefighting system that can withstand the high environmental loads and yet only takes up a small amount of space.

Our High Pressure Water Mist System has been tested in extensive full-scale fire tests and certified by independent institutes. The service our company offers includes the planning, design and manufacture of the firefighting system, which can be used both in passenger compartments and in technical areas of passenger trains, locomotives or track maintenance machines.



OUR TECHNOLOGY



High Pressure Water Mist System

Our extensive range of nozzles can easily be customized with different adapters to suit a range of installation scenarios. All nozzles are made entirely from stainless steel, which means they blend very well into the design inside the train.



GPP power pack

Their compact design, ease of use and long service life make gas power packs the ideal choice for use in rail vehicles. Frost protection concepts are available as an option, along with simple testing and refilling when they are installed.



EPP power pack

Electrically powered water supply units are a reasonable alternative in applications where there is a secure power supply or battery power supply. They do not require pressurised vessels and are much easier to refill and restart after they have been triggered.



DVSR valve unit

These robust, easy-to-service section valves are noted for their visual and electrical position indicators. With manual operation in an emergency and the option to conduct regular full functional testing without an external auxiliary power supply, they provide ideal RAMS and LCC results.

REFERENCES

Plasser & Theurer track maintenance machines



Challenge:

- // Elevated risk of fire in cramped machine rooms
- // High mechanical loads, temperatures and vibrations

Solution:

- // Modular firefighting system for different machine sections
- // Water mist system pressurized by gas or electric pumps

Incheon Line 1 and 2, Metros



Challenge:

- // Electric power pack with a water tank for roof installation
- // Safeguard operation in extreme ambient temperatures

Solution:

- // Design a power pack inside an insulated, air-conditioned roof box
- // Fully automated operation and service using remote maintenance

Trenitalia, Regional trains



Challenge:

- // „Multiple discharge system“ because the firefighting system can be triggered multiple times
- // Ensure that a train can continue to operate if the system is triggered in the toilet (by someone flouting the smoking ban)

Solution:

- // Develop a gas-powered system that can be activated multiple times
- // Special water supply unit designed co-transport and integration within the passenger area.

TGV, High-speed trains



Challenge:

- // Train is 200 m long
- // Main line in the train of more than 240 m
- // Pressure supply unit at the end of the train

Solution:

- // Optimise the pipeline system to reduce pressure losses
- // Open or closed nozzles to reduce weight and LCC

WE ARE THE RIGHT PARTNER

WHEN INNOVATIVE FIREFIGHTING SOLUTIONS MATTERS



PARTNERSHIP

In our dealings with customers, partners and employees, we consider long-term partnerships based on reliability, appreciation and a solution-oriented approach to be of great importance.

OUR SYSTEM

We are not alone in valuing our firefighting system so highly – our customers are equally impressed, however they use it. It is space-saving, long-lasting and environmentally friendly.

TECHNOLOGY AND DEVELOPMENT

Our developers are delighted to be confronted with new challenges and will find the right solution for your requirements.

Josef Hainzl
Managing Director AQUASYS Technik GmbH

Based on our years of expertise in development, design, installation and service, we deliver high-quality firefighting systems for

// INDUSTRY AND BUILDINGS
// ROAD AND RAIL TUNNELS
// RAIL VEHICLES