



High-pressure
water mist fire protection



www.ultrafog.com





DELIVERING FIRE PROTECTION SOLUTIONS FOR PASSENGER TRANSPORT VEHICLES

In our busy cities, highways and transport hubs, fire in a passenger vehicle can be devastating both in terms of life safety and business disruption. The breakdown or loss of a vehicle due to fire can cause chaos, unwanted downtime and economic loss. Statistically, the majority of fires in passenger transport vehicles start in the engine compartment, and increasingly legislation worldwide is prescribing the Fire Safety Systems specifically designed to prevent fires in engine compartments.

Specialized in the development, design and manufacture of high pressure water mist fire suppression systems and solutions, Ultra Fog's high performance vehicle fire protection system results from a continuous program of research and development, extensive fire testing, type approvals, and quality controlled manufacturing.

With its global reach, aftersales service and maintenance provision Ultra Fog ensures that customers benefit from lifelong product assurance and protection.



System is tested and approved in accordance
to **SP METHOD 4912,**
UNECE R107

FIRE
DETECTION
TUBE

SPRINKLER
PIPE

ELECTRICAL
CABLE

CONTROL
BOX (24V DC)

MANUAL
RELEASER

NOZZLE

FIRE DETECTION
TUBE
CONNECTION

H₂O

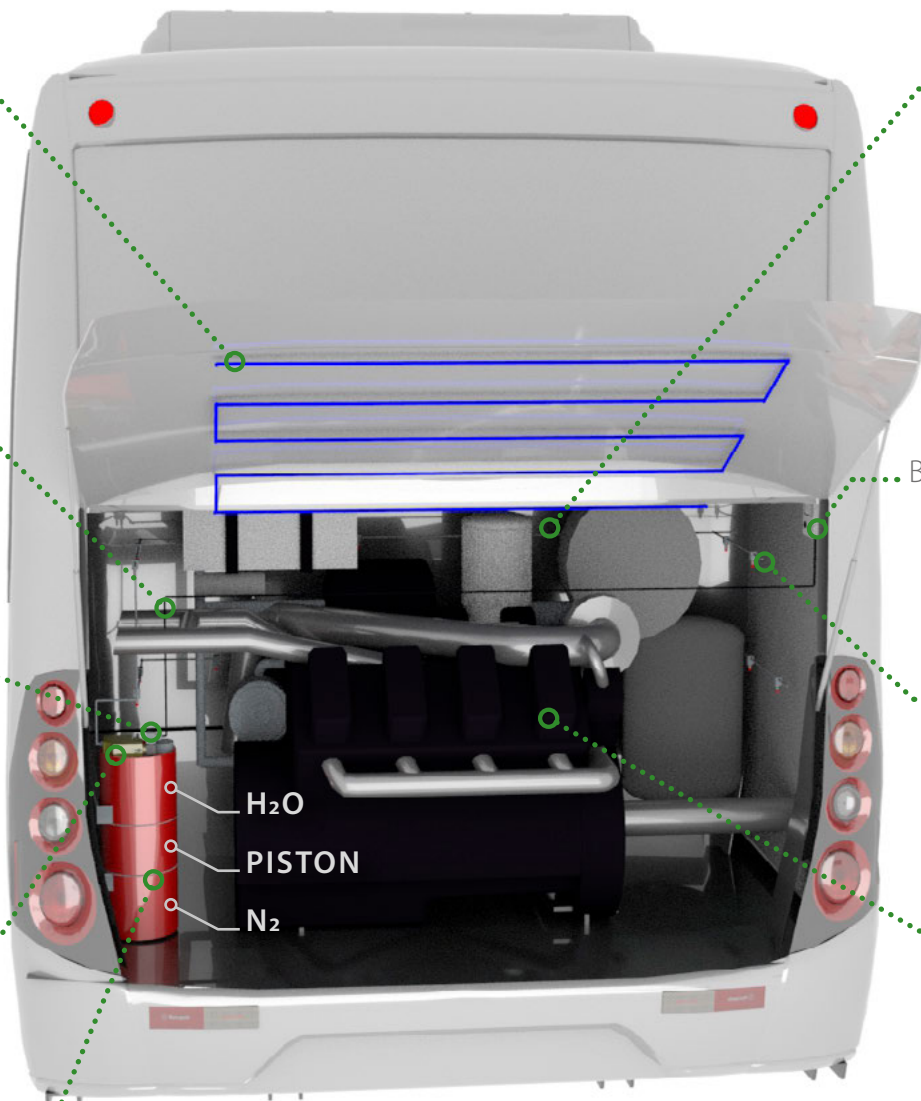
PISTON

N₂

ENGINE

ACCUMULATOR
UNIT (2 SIZES: 15L FOR LARGE
ENGINE SPACES AND 9.8L FOR
SMALL ENGINE ROOMS)

Engine Compartment
System Protection
Scheme





DELIVERING FIRE PROTECTION SOLUTIONS FOR HEAVY TRUCKS VEHICLES

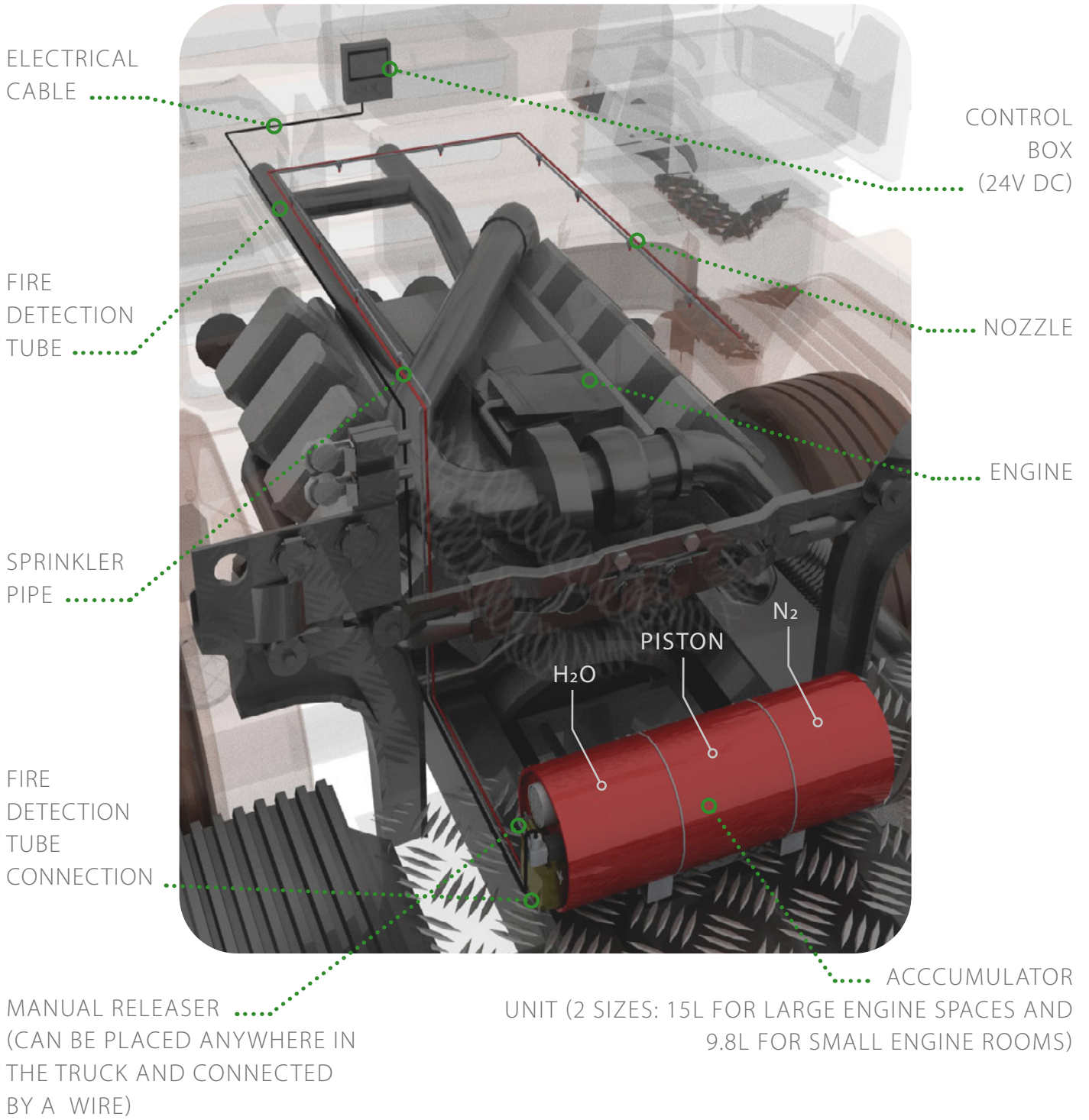
Heavy industry and all kinds of vehicles and machines are exposed to high fire risk, often due to the workplace or high temperatures during exploitation. Some vehicles used in industry cannot be approved for operation without an appropriate, certified fire protection system. Considering that the most common cause of fires in vehicles is engine ignition, Ultra Fog has developed a special system dedicated to these spaces. The system is easy to use and service on a daily basis. Fire extinguishing can be started manually or automatically.

Fire protection of the engine does not close up much space. It can be installed in almost any vehicle that we want to equip with a fire extinguishing system. Such fire protection can be installed, among others, in transport, mining, loading vehicles as well as those used in agriculture and forestry.

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Vehicles System
Protection Scheme



HOW DOES THE SYSTEM WORK?

The accumulator unit consists of two chambers - the first contains compressed gas, and the second is filled with fire extinguishing liquid water. A piston separates the two sections.

The cylinder contains a standby pressure of 110bar. An accumulator valve, located on the side of the water chamber, can be released in three different ways:

- manual activation
- activation via the detector tube
- remote driver side activation (optional).

The detector Tube is designed to hold a standby pressure of 13 bar. In the event of a fire in the compartment the tube will melt, and pressure will drop. As the pressure falls below 5 bar, the accumulator valve will be activated and the watermist will discharge into the compartment, suppressing the fire. The tiny micro droplets of water created on release will fill the engine compartment, rapidly cooling and suppressing the fire. The relatively small quantity of water required to fill the space and the absence of corrosive or powder based extinguishing agents mean that downtime can be reduced to a very minimal.

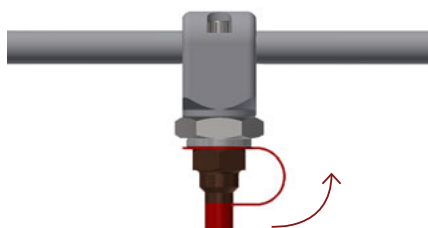


System maintenance: easy to use, simple to maintain.

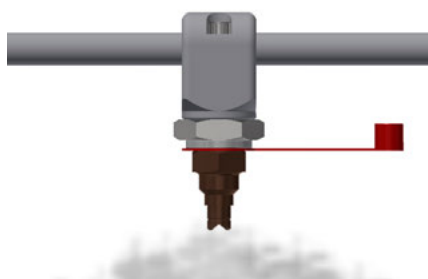
DAILY: visually check pressure gauges.

WEEKLY: check all elements (detector tube, nozzles, nozzle caps, and piping) are connected and correctly positioned.

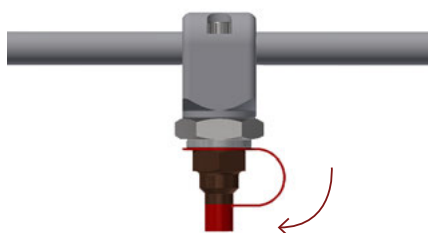
AFTER ACTIVATION: Accumulator unit to be refilled or replaced, detector tube and nozzle caps to be replaced. System to be verified by trained maintenance personnel.



1. The pressure of the releasing extinguishing watermist will pop the nozzle cap off allowing the watermist to release into the compartment.



2. Watermist will release into the engine compartment.



3. After activation and extinguishing process, nozzle cover has to be put back in place, covering the nozzle.



Vehicle accumulator unit

Fire Testing, Type Approvals and compliance:

Ultra Fog's Water Mist System has been fire tested by the Swedish Test Laboratory (SP), SINTEF - Norway and Danish Fire Laboratory (DFL), and the Southwest Research Institute (SwRI) and Baltic Fire Laboratory (BFL).

- FM5560 Data Processing Equipment Rooms/Halls (Appendix M and N)
- FM5560 Non-Storage Occupancies, HC-1, Part 4 EN14972
- FM5560 Turbine and Machinery in Enclosures, Part 14 and 15 EN14972
- Part 3 EN14972 OH1
- Part 10 EN14972 Annex A OH4
- Part 2 EN14972 Annex A OH3
- Part 5 EN14972 Annex A OH2
- Part 7 & 17 EN14972 Annex A, Residential Water Mist Systems
 - BS 8458 – Domestic and Residential Water Mist Systems
 - BS 8489 – Commercial and Industrial Water Mist Systems
 - NFPA 750
- Archive / Library CEN TS 14972 annex B, ref fire report BFL2020/TP02/001 and BFL2020/TP02/009
- Part 12 EN14972, Fat Fryer & Galley Hood
- Component testing by the laboratory of UL and FM
- Tunnel: Uptun, Applus+ guideline full scale fire test.
- Vehicle / Diesel Train: Regulation No. 107, Revision 7, Annex 13; Train test specification ALn663

Since 1990, Ultra Fog has been committed to a continuous programme of product development and fire testing in response to the latest rules, regulations, and standards around the world. Ultra Fog products are 3rd party tested and approved, in accordance with internationally recognised test protocols.

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