



Buses | Trucks | On-Road vehicles | Railway

Revolutionary Fire Suppression Systems



Made in Germany



detexline 4V

Almost no Maintenance
No Pressure
No Electricity
Robust
Ultra-Fast Detection
Ultra-Fast Extinguishing
Long term Savings

100% Stainless Steel

Hydrogen
Electric
Diesel



UNECE

R107 approved system

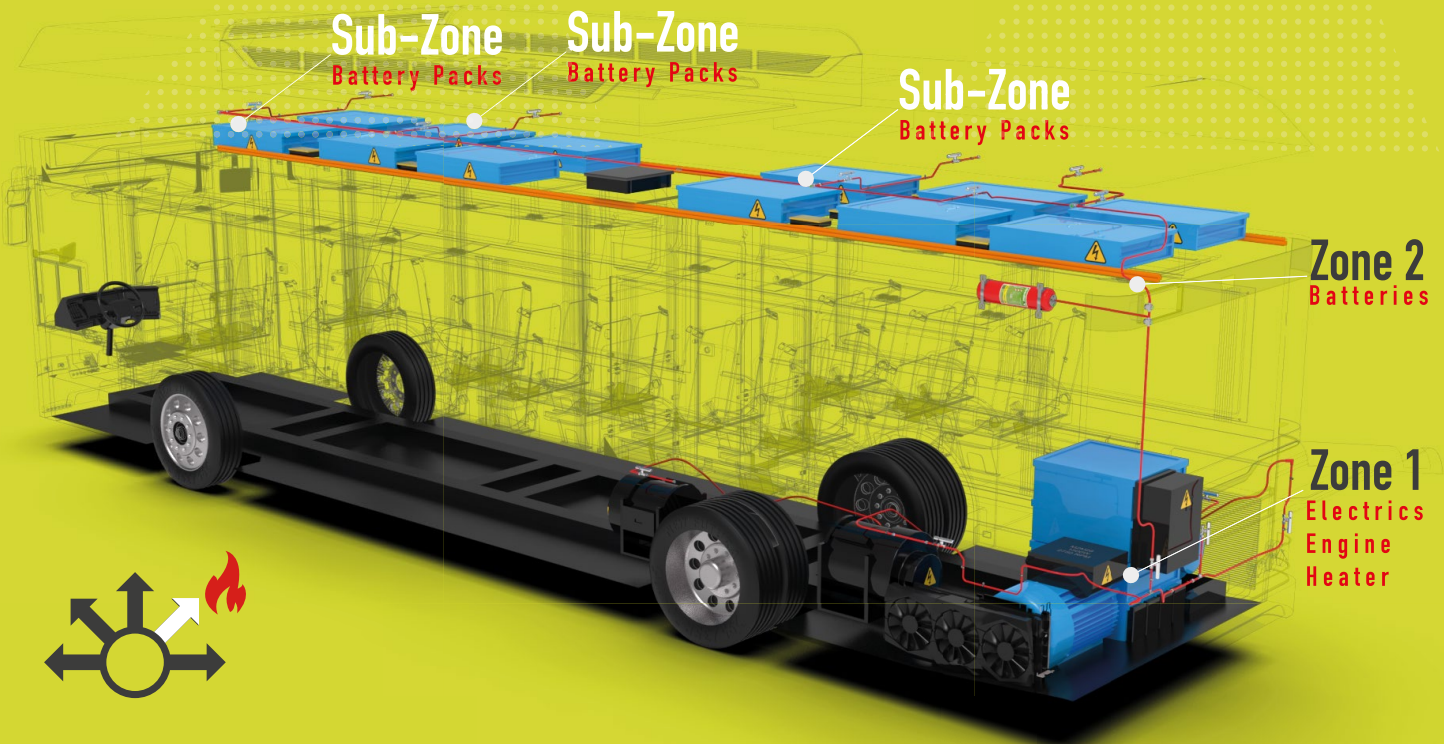




Directional Valve System

Electric and Hydrogen Buses

Example



Directional Valves for Electric and Hydrogen Buses

Independent Detection and Extinguishing Zones connected to the same extinguishing container

- Smaller Extinguishing Agent Container
- Independent Detection
- Independent Extinguishing
- Fully Mechanical – No Electricity
- Multiple Zones and Sub-Zones





080052



CE cod. 0109303



Fully Pneumatic - Self Contained

Stainless Steel Container

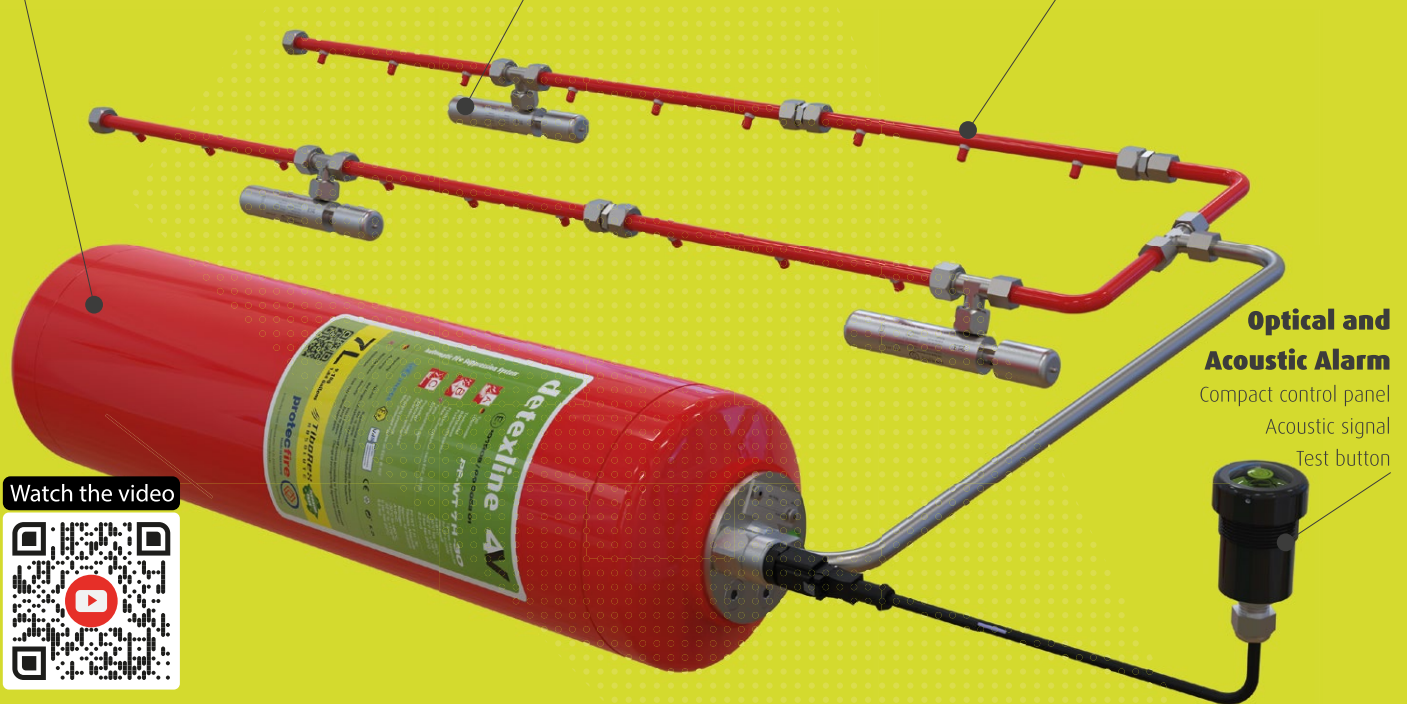
Safe and robust
Internal activation system
Maintenance free
Stainless steel

Spy - Thermo-Pneumatic Detector

Patented
Multiple temperature ranges
Sensitive to hidden fires
Robust and accurate
Stainless steel

Fine Spray Nozzles

Patented
75° angle spraying
Robust and precise
Stainless steel
Very small and fits virtually anywhere



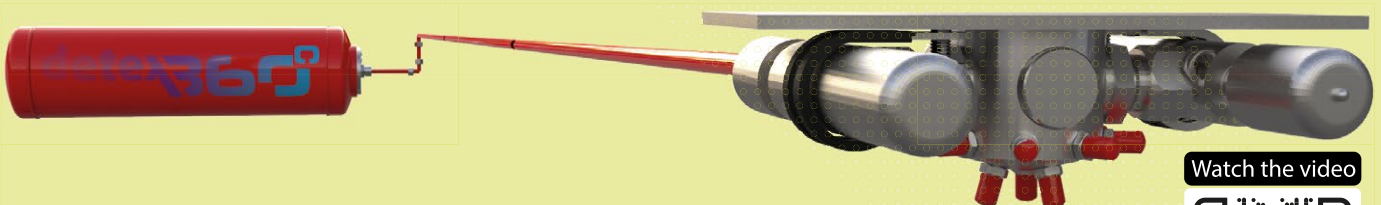
Watch the video



Optical and Acoustic Alarm

Compact control panel
Acoustic signal
Test button

Detex360 System Version



360 degrees of fine spray and detectors, all in one piece.

A single small unit system with detection and extinguishing, the fastest to install!
This system allows an homogeneous fine spray dispersion throughout the compartment.
The nozzles cover all directions for effective dispersion.

Watch the video





Single-Line System (det-ex)

Detection and extinguishing in a single pipe line.



No Pressure

The extinguishing agent container is made of stainless steel and is pressure-free in the operating state. The piping is also pressureless.



No Electricity

No electricity needed in the system.



10 Years - No parts change

Long savings - durable and resistant parts.



Ultra-Fast Detection

Response speed: Ultra Fast Response RTI 12. False alarm proof. Based on "temperature" parameter for pneumatic activation.



Operation Temperature Range: -30°C to 80°C

Prepared for extreme climates, whether in the desert or in the mountains.



Capable of Working in Extreme Conditions

Shock and vibration resistant.



Stainless Steel

Precision manufacturing - highly durable stainless steel.



Very Low Maintenance

Due to the absence of pressure and simplicity, maintenance routines are practically only visual.



Fully Mechanical / Pneumatic

The entire system is self-contained. It does not require manual operations and does not depend on external controls, such as control panels or electrical detectors.

Possibility of multiple temperature ranges in a single system:
57 °C | 68 °C | 79 °C | 93 °C | 110 °C | 141 °C | 182 °C | 230 °C | 260 °C

Operates in highly ventilated
and in open spaces



**Can be installed in
Any Position/Angle**



Extinguishing Agent

Liquid - TiBorex Absolute



Long-Term Savings

Factors that make Detexline the most economical system:

No Replacements
10 Years

Almost maintenance-free for 10 years:

No need for the usual annual maintenance as it is not pressurized!

No false alarms:

Patented, accurate and reliable detection system.

Make your own maintenance:

Your own staff - no need for external companies.

It can be reinstalled in different vehicles:

Easy and fast installation.

How it Works

The Detexline container and its interconnected piping network remain in a depressurized state. In the event of a fire, the SPY detectors are designed to activate through thermal sensing. This activation initiates the controlled release of pressure from both the pipeline and the cylinder control valve. Consequently, this pressure release mechanism prompts the discharge of the extinguishing agent.

The dispersion of Tiborex Absolute is accomplished using precision-engineered fine spray nozzles. They efficiently cool the affected area, and effectively suppress the fire within mere seconds of its ignition.

For electric and hydrogen buses, directional valves optimize agent use, autonomously detecting and extinguishing individual sections to concentrate efforts where needed.

Name	detexline 4v
Temperature Range	-30 to 80C
Detection Technology	Rise of Pressure
Detection and External Line	One integrated line
System Pressure	No pressure
Detection Technology	SPY detection element - Stainless steel
Trigger Temperature	Glass ampoule, 9 independent temperatures
Life of Detectors	10 years
Nozzle Type	S1
Extinguishing Agent	Tiborex Absolute
Extinguishing Agent Volume	4, 7, 14, 24L
Extinguishing Technology	Fine spray technology
Extinguishing Container (pressure)	Pressureless (Sealed Cartridge)
Product Material	Stainless steel
Alarm Signal Switch	Yes
Maintenance Inspection	Annually
Parts Replacement Duration	10 years



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System components



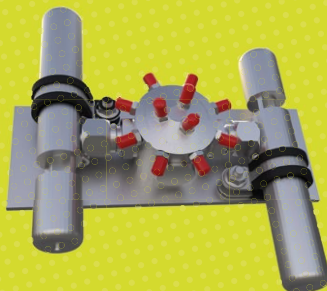
SPY thermo-pneumatic detector

- Unique patented detector
- No electricity required
- High-finish stainless steel
- Response speed: Ultra Fast Response RTI 12
- Available detection temperatures:
-57°C -68°C -79°C -93°C -110°C -141°C -182°C -230°C 260°C



Fine-Spray nozzle Bars

- Unique patented nozzle solution
- Quick and easy to install - Reduces installation time by ~70%.
- Very small - Virtually fits anywhere
- Stainless steel
- S1 factor 0.5 - Fine spray technology
- Up to 75° spray pattern
- High quality, heavy-duty nozzle caps



detex360

- Multi-directional fine dispersion nozzles and detectors in one piece.
- Compact Design - Easily Fits Anywhere
- Constructed from Stainless Steel
- S1 Factor of 0.5 - Utilizing Fine Spray Technology
- Offers up to a 90° Spray Pattern per Nozzle - Achieving Extensive Coverage
- A Truly Unique Innovation.

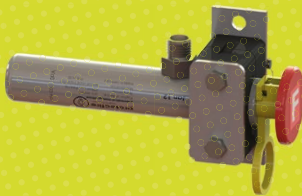


Extinguishing agent tank

- Innovative Patented Pneumatic Release Mechanism
- Versatile Placement in Any Orientation
- Crafted from Stainless Steel with Electrostatic RAL3000 Paint Finish
- Exclusively Patented Stainless Steel Actuation System



Introducing Tiborex Absolute: An Exclusive Protecfire Agent
Uniquely Effective Against Liquid, Solid, and Grease Fires.



Optional

Pneumatic Manual Actuator

- Unique patented pneumatic activation system
- Stainless steel
- Safety locking system
- Argon gas activation



Optional

Alarm/Test Panel

- Easy to install
- One-button operation for testing
- Buzzer for alarm
- Optical LED light for test/alarm



Liquid extinguishing agent

- Ultra-Rapid Extinguishing
- Cooling and Blanketing effect
- Environmentally Friendly (non-toxic | biodegradable)
- Fluorine Free
- Residue control by ultraviolet light



Extinguishing Agents Comparison

	TiboRex Absolute	Water	Foam	Powder	Gas
Fast Temperature Reduction	+	-	-	-	-
Surface Blanketing	+	-	+	-	-
Quenching Effect	+	-	+	-	+
Fine-Spray Technology	+	+	-	-	-
Fluorine Free	+	+	-	-	+
Temperature Range -50°C to +80°C	+	-	-	+	-
Danger to Persons	+	+	-	-	-

Ultrafast extinguishing

Only small amounts of extinguishing agent required. Tiborex rapidly delivers a huge cooling power. The object to be protected remains almost undamaged.

Ultrafast cooling

Enormous reduction of surface temperature. Avoidance of re-ignition. Reduced effect of fire. Quick interruption of combustion process.

The Cooling Effect

The impressive cooling effect of Tiborex Absolute is predominantly hinged on two fundamental physical attributes:

Quenching effect

Rapid removal of thermal energy therefore removing heat, hence no combustion or fire in hidden cavities.

Blanketing fat and oil fires

When mineral, animal or vegetable fats and oils burn, Tiborex Absolute uses chemical reactions to form a closed, gas-proof protective layer quenching the fire and protecting the hot fat or oil from re-ignition by cooling them down very quickly.

Water Evaporation-Driven Cooling: Tiborex Absolute employs specially developed fine-spray nozzles that release the extinguishing agent in droplets smaller than 100µm. This design ensures ultra-rapid evaporation of the liquid component within the extinguishing agent. By utilizing the necessary enthalpy of evaporation, which stands at 2.26 MJ/kg (equivalent to the energy required to evaporate 1 liter of water), energy is swiftly extracted from the burning object. This process results in a significant and prompt reduction in temperature.

Residue monitoring and guaranteed quality

Residues of the extinguishing agent on the object can be identified with the help of ultraviolet light. A chemical analysis (DNA) can verify and confirm that the original Tiborex Absolute was used.

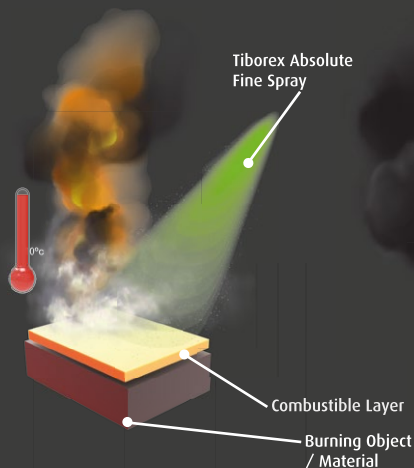
Environmental friendliness

Ecological and 100% fluorine-free extinguishing agent. Biodegradable. Non toxic to humans and animals.

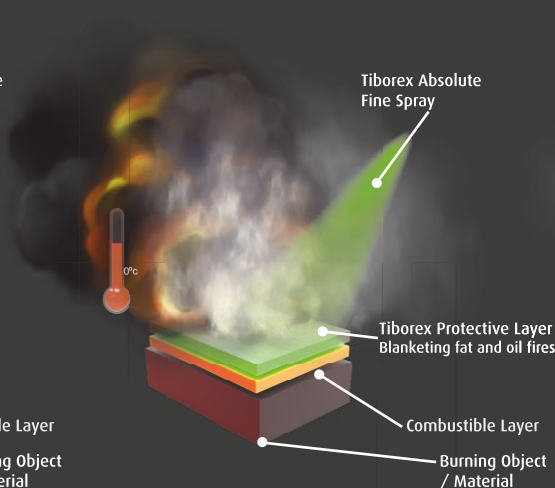
Sublimation-Induced Cooling: As the aqueous phase evaporates, certain key constituents within Tiborex Absolute form crystalline structures. Operating within the existing combustion temperature, these solid structures transition from the crystalline phase to a gaseous state. This phase transition necessitates a substantial enthalpy of evaporation, equivalent to 7.23 MJ/kg of heat.

3 stages fire suppression

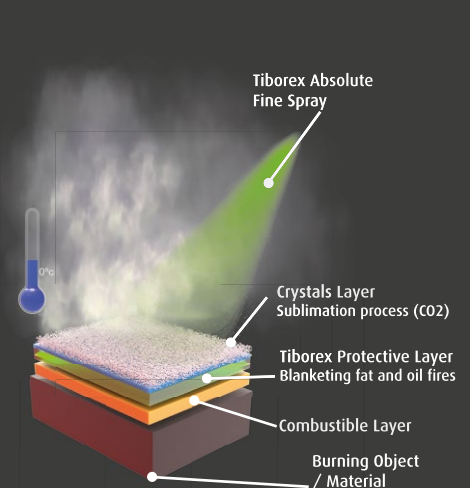
1 Cooling Effect Fine Spray Droplets that penetrate fire



2 Oxygen Suffocation by evaporation



3 Ultra Cooling through Sublimation Layering with solid crystals that convert to gas





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