protecfire
Made in Germany

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

UNECE
R107 approved system

E1

Hydrogen
Electric
Diesel

Fine Spray Technology

TiboRex ABSOLUTE

Agente de extinción líquido

A large amount of fine droplets of liquid agent is sprayed through the special patented nozzles forming a huge cooling reaction surface. Thus, the fire will be quickly deprived of thermal energy, leading to a rapid temperature drop. The cooling effect breaks the reaction necessary to support combustion.

In addition, after the entire extinguisher has been dispensed, nitrogen propellant gas will be discharged from the patented container, resulting in a hybrid suppression system, also ensuring fire sufocation.

FLUORINE FREE

Watch the video

LIQUID FIRES
Fuel, lubricant and hydraulic fluids

SOLID FIRES
Plastic, rubber, wood, sawdust, wires, cables

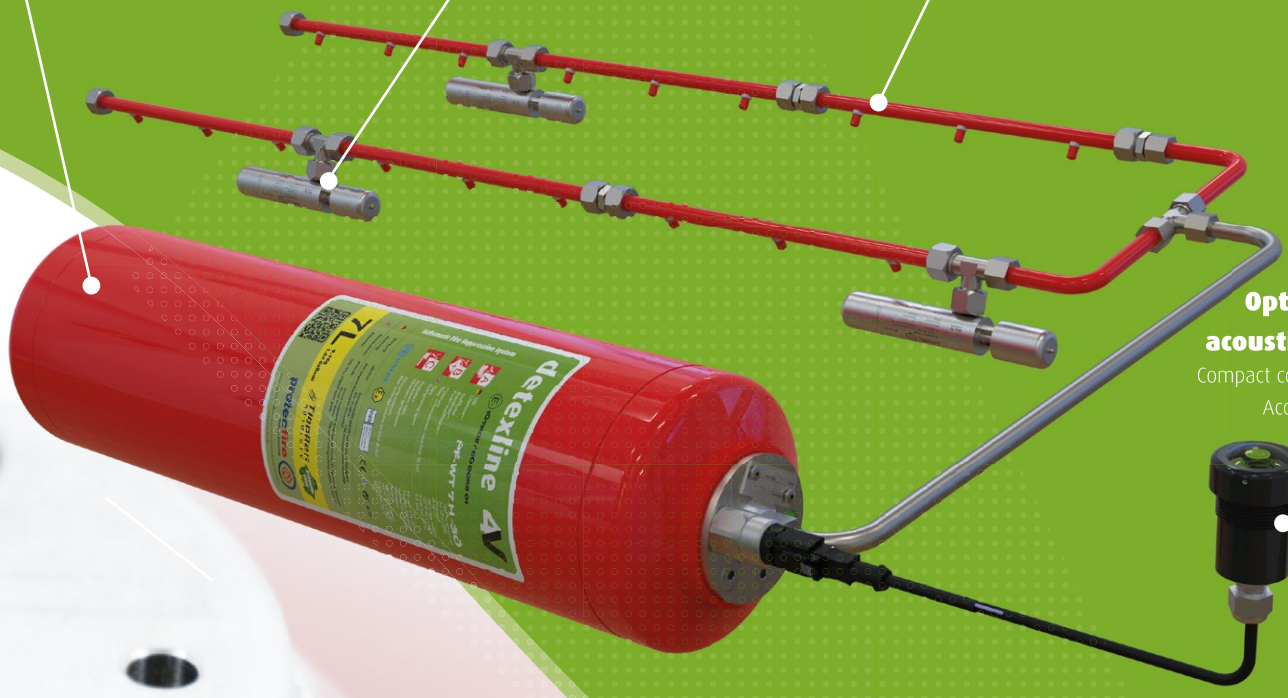
ELECTRICAL FIRES
Electrical cabinets, substations, transformers and other equipment

Fully Pneumatic - Self Contained

Stainless steel container
Safe and robust
Internal activation system
Maintenance free
Stainless steel

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

Spy - Thermo-Pneumatic Detector
Patented
Multiple temperature ranges
Sensitive to hidden fires
Robust and accurate
Stainless steel



Optical and acoustic alarm
Compact control panel
Acoustic signal
Test button

Detex360 System Version

Watch the video

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.

detexline 4V

Automatic Fire Suppression Systems for: Buses | Trucks | On-road vehicles | Railway

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 places and in open spaces

UNECE
R107 approved system

Long-Term Savings

Factors that make Detexline the most economical system

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.

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

How it Works

The detexline tank and piping network are not pressurized.
The SPY detectors will be activated by thermal detection, thus releasing the pressure in the pipeline and cylinder control valve, which in turn will trigger the release of the extinguishing agent.
Fine spray nozzles will disperse the Tiborex Absolute providing the cooling effect and effectively extinguishing fires within the first few seconds.
It can be manually activated remotely.
An alarm and test button can be installed.

System components

Watch the video

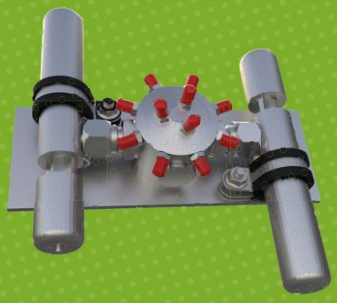
SPY thermo-pneumatic detector

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

Watch the video

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



Watch the video

detex360

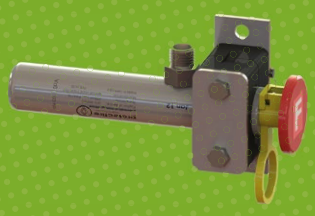
Multi-directional fine dispersion nozzles and detectors in one piece.
Very small - Virtually fits anywhere
Stainless steel
S1 factor 0.5 - Fine spray technology
Up to 90° spray pattern on each nozzle - high coverage.
Unique in the world.

Watch the video

Extinguishing agent tank

Patented - Unique Pneumatic Release System
Can be placed in any position!
Stainless steel with electrostatic paint finish Ral3000
Patented - Stainless steel actuation system

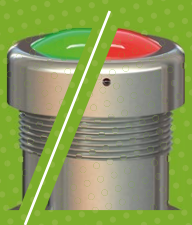
Liquid Agent: Tiborex Absolute - exclusive protecfire agent
Effective against liquid, solid and grease fires.



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

TiboRex ABSOLUTE

Liquid extinguishing agent

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

TiboRex ABSOLUTE

NEW AND ABSOLUTE PREDATOR

ultra fast extinguishing

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.

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.

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.

The cooling effect

The enormous cooling effect of TiboRex Absolute is mainly based on **two physical properties**:

Cooling effect due to water evaporation: The fine-spray nozzles developed specially for TiboRex Absolute produce very fine droplets, smaller than100µm, when discharging the extinguishing agent. As a result, ultra-fast evaporation of the liquid share in the extinguishing agent is achieved. Due to the required enthalpy of evaporation of 2.26 MJ/kg (equivalent to 1 litre of water) energy is extracted from the burning object in a minimum of time and it cools down substantially.

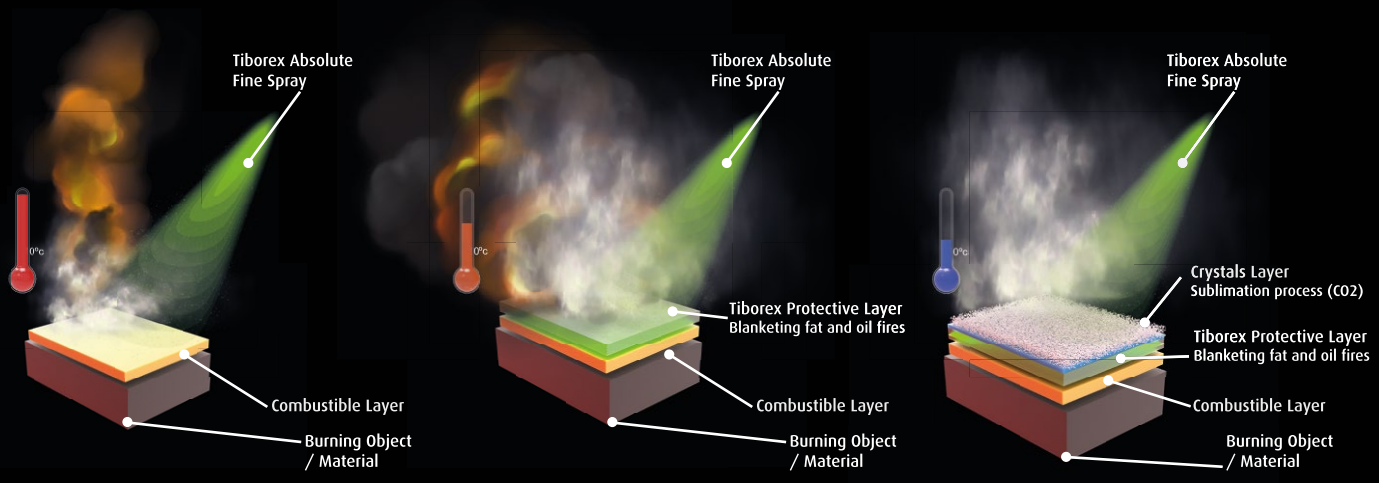
Cooling effect due to sublimation: During the evaporation of the aqueous phase some of TiboRex Absolute's main components form crystalline structures. With the still existing combustion temperature, these solid structures change from the crystalline phase to a gaseous phase. The enormous enthalpy of evaporation (heat) required for this amounts to 7.23 MJ/kg.

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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protecfire
Made in Germany

protecfire GmbH
Weidekamp 10
D-23556 Lübeck
Germany

Tel.: +49 (0) 451 399 61-10
Fax: +49 (0) 451 399 61-20
@: info@protecfire.de
www.protecfire.de

Authorized Distributor

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