



BUS

NO ELECTRICITY

NO PRESSURE

EASY MAINTENANCE

FIRE SUPPRESSION SYSTEMS



Safety & Environmental Protection is Our Priority





Tiborex Extinguish Agent

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

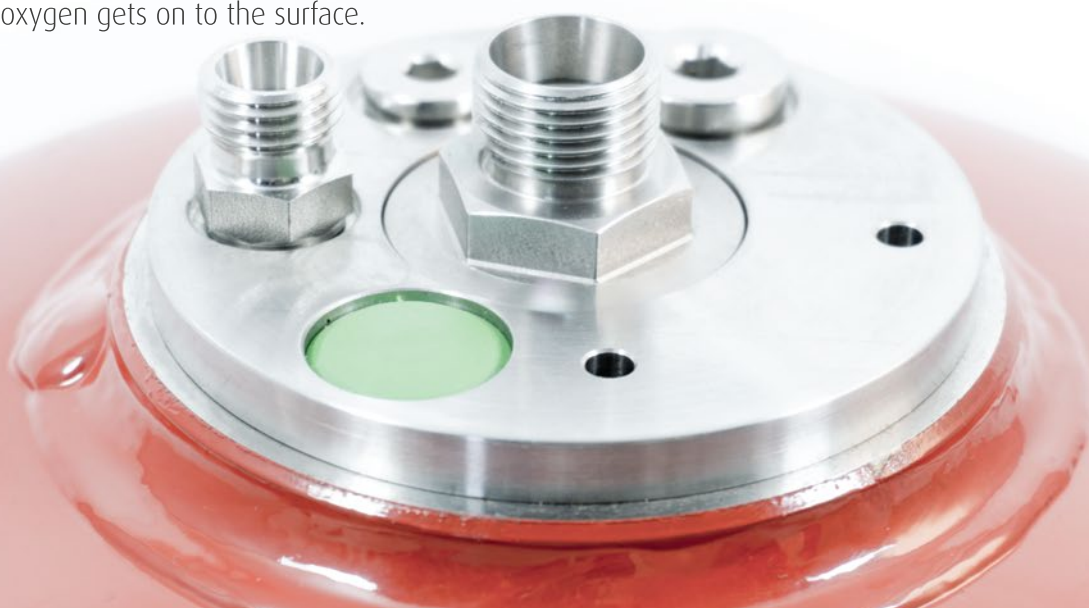
In addition, after all the extinguishant has been dispensed, the propellant Nitrogen gas from the patented container will be discharged, resulting in a hybrid suppression system, further ensuring that no oxygen gets on to the surface.

fine-spray

LIQUID FIRES
Fuel, lubricant and hydraulic fluids

SOLID FIRES
Plastic, rubber, wood, sawdust, cables

ELECTRICAL FIRES
Electric cabinets



1





technology

**Robustness of
German Technology**

Spy - Thermo-pneumatic Detector

Patented
Multiple temperature range
Sensitive to hidden fires
Robust and Precise
Stainless-Steel

Fine Spray Nozzles

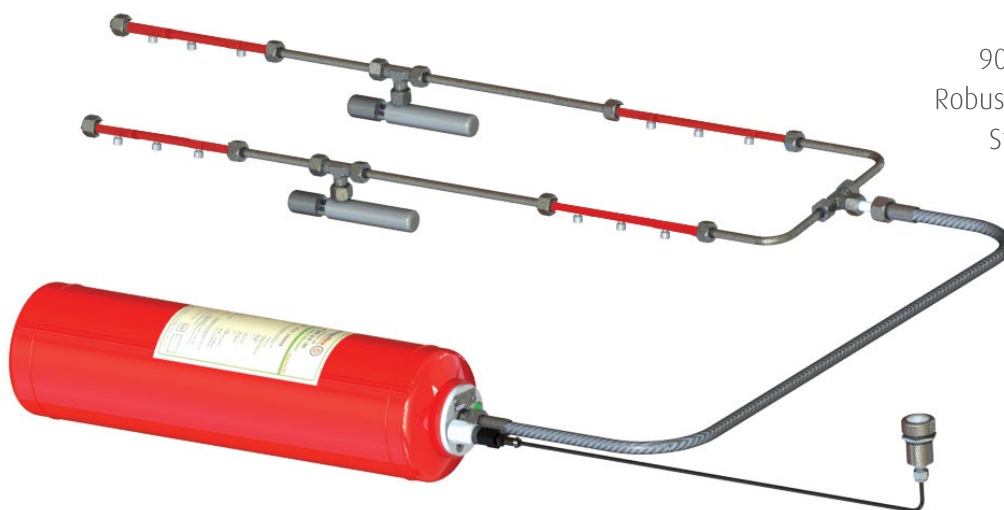
Patented
90°Angle spray
Robust and Precise
Stainless-Steel

Stainless Steel Container

Safe and Robust
Internal Activation System
No maintenance
Stainless-Steel

Optic and Acoustic Alarm

Compact control panel
Acoustic Signal
Test Button



Perfect fit installations



3







HIGH QUALITY
GERMAN ENGINEERING

5





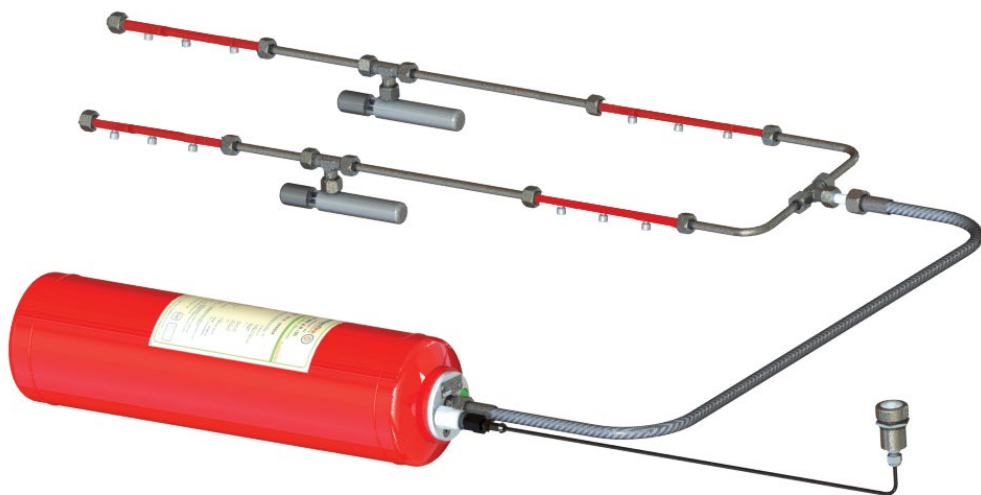
UNECE



detexline 4V

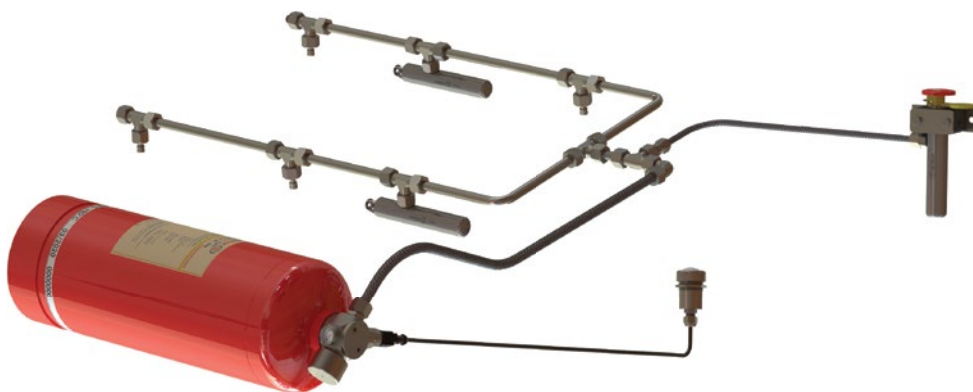
Single line system:
detection / extinguishing

No pressure
Maintenance free



DX
RAPTOR
protecfire

Single line system:
detection / extinguishing



FC
RAPTOR
protecfire

2 separate line system:
detection / extinguishing



No Electricity
no electrical power in the system is needed

Low Maintenance
almost maintenance free, no parts need
to be replaced for 5 years

Simple & Easy to Install
both for new system or retrofit and in
a limited and confined space

Patented Technology
Applicable Temperature: -50°C to 80°C
Able to work in extreme adverse conditions

fast
simple
robust
efficient



New extinguishing agent - Tiborex Absolute



NEW AND ABSOLUTE PREDATOR

TiboRex Absolute

Our proprietary extinguishing agent meets the highest expectations in terms of effectiveness and environmental friendliness

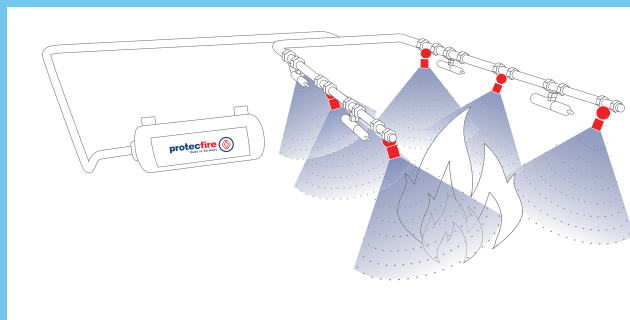
The cooling effect

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 than 100µm, 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.

- ultra fast cooling liquid agent
- fluorine-free
- biodegradable
- non-corrosive
- non-toxic
- use at -50°C to 80°C ambient temperatures
- surface blanketing / quenching effect



Extinguish Agents Comparison

COMPARISON OF FIRE EXTINGUISHING AGENTS	TiboRex Absolute	Water	Foam	Wetting Agent	Powder	Gas
Fast Temperature Reduction	+	-	-	-	-	-
Surface Blanketing	+	-	+	+	-	-
Quenching Effect	+	-	+	-	-	+
Fine-Spray Technology	+	+	-	+	-	-
Fluorine Free	+	+	-	-	-	+
Temperature Range -50°C a +80°C	+	-	-	-	+	-
Danger to Persons	+	+	-	-	-	-

Ultrafast extinguishing

Only small amounts of extinguishing agent required
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 cooking 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
Nontoxic to humans and animals



- Headquarters
- Subsidiaries
- Distributors

Protecfire (Asia Pacific) Ltd

Asia Pacific Regional HQ
Park Avenue Changi
2 Changi Business Park Avenue 1
Unit 02-00. Singapore 486015
Tel .. +65-68097110
Fax .. +65-68097299
Email: sales@protecfire.asia
www.protecfire.com.sg

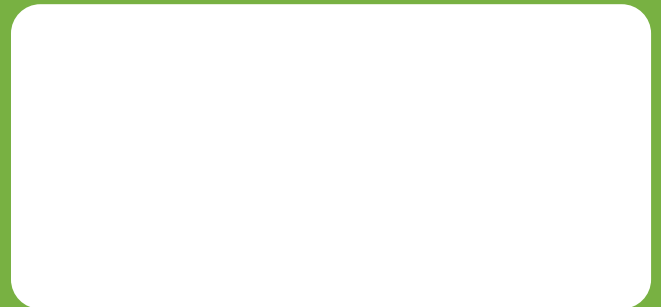
Protecfire (Langfang) Fire Systems Technology Co. Ltd

Unit 2, Building 8. Satellite Navigation Industrial Park
Guan Xinxing Industrial Park, Langfang City
Hebei Province 065500.
China
Tel .. +86 316 5929119
Fax .. +86 316 5922569
Email: sales@protecfirechina.com
www.protecfirechina.com

Protecfire GmbH

Headquarters & Factory
Weidekamp 10 D-23558. Luebeck. Germany
www.protecfire.de

Authorized Distributor



art. 2020/10-mining-protecfireasia

