

AUTOMATIC FIRE SUPPRESSION SYSTEM



BLAZECUT

AUTOMATIC
Activation



CLEAN
Leaves no residue

NON-TOXIC
Safe for people



INDEPENDENT
from any power supply

EASY
INSTALLATION

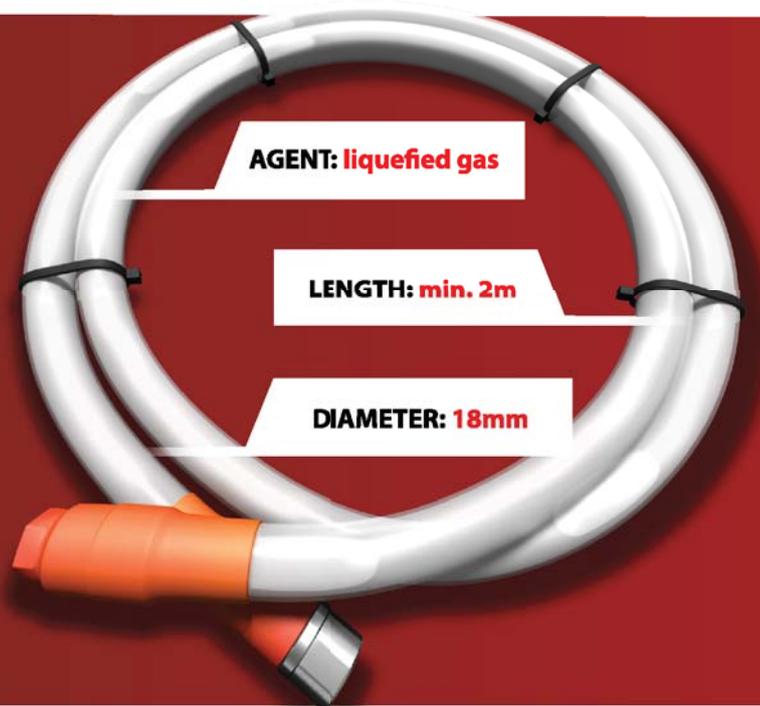


MAINTENANCE-FREE

LONG
DURABILITY



ENVIRONMENTALLY
FRIENDLY



AGENT: liquefied gas

LENGTH: min. 2m

DIAMETER: 18mm



AUTOMATIC FIRE SUPPRESSION SYSTEM

 Independent from any power supply

 Leaves no residues after extinguishing

 Fast detection and high efficiency

 Unique clean fire-extinguishing agent has zero ozone depletion potential

BLAZECUT
for each vehicle

 Easy installation

The system operation

BLAZECUT operates automatically without any power supply by detecting higher temperature. When the temperature rises above 120 °C in the engine compartment, the detection tube melts down at the point where the affecting temperature is the highest. Melting the tube creates a nozzle releasing the entire content of the tube into the area, thus extinguishing the fire and cooling the engine compartment.

Technical specification

- Agent:** liquefied gas
- Amount of agent:** min. 0,5 kg
- Length of tube:** min. 2 m
- Activation temperature:** above 120 °C

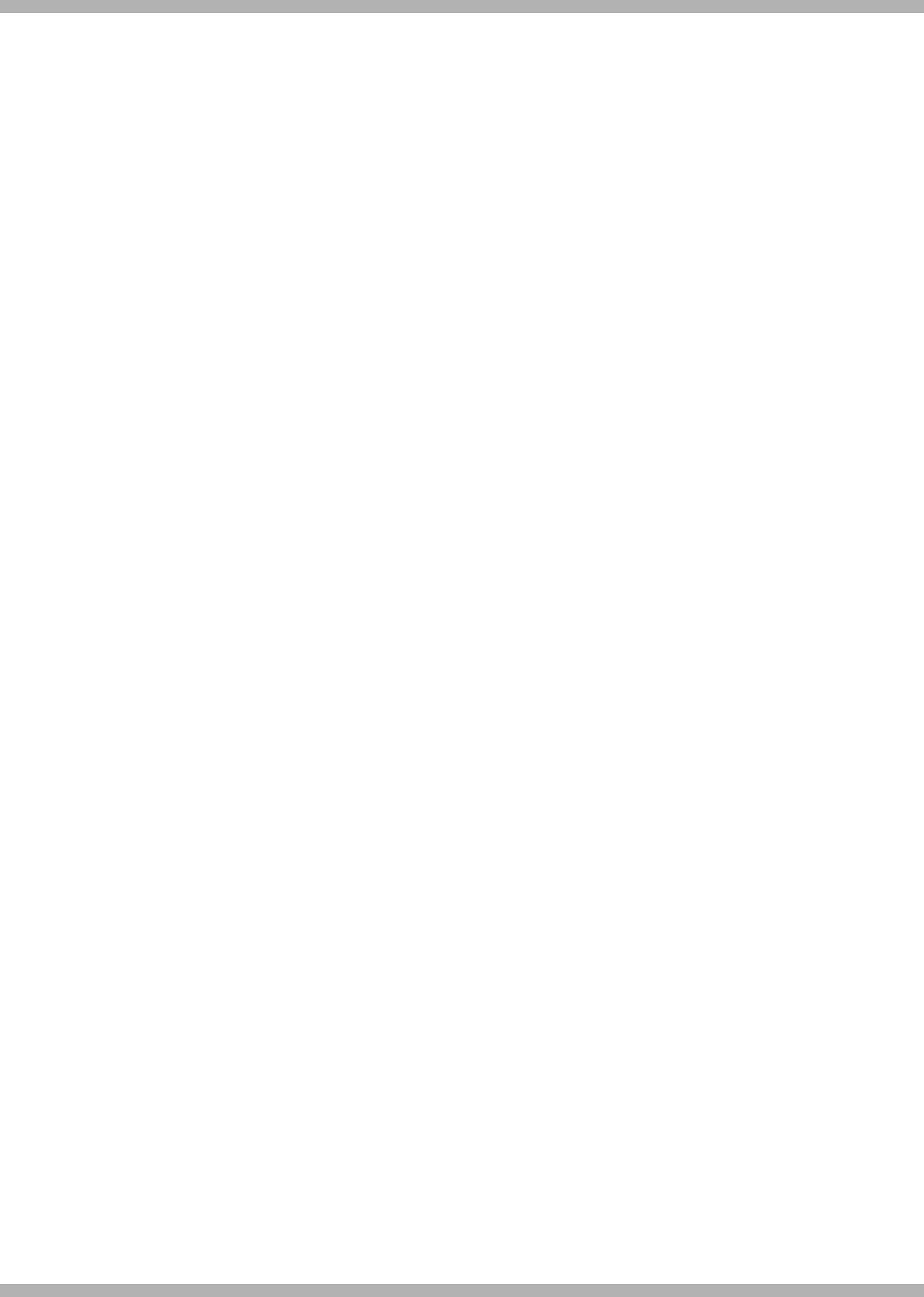
Implementation





Automatic Fire Suppression Systems





EXTINGUISHING AGENTS

Each environment is different so choosing the right agent is critical. BlazeCut systems use three world-wide known and commonly used extinguishing agents that can cover every need: gaseous clean agent, foam agent or powder agent.

Clean Agent

The clean agent is liquefied gas used for volume fire suppression. The clean agent is discharged as a stream of gas and liquid droplets that penetrate into the fire area, ceasing the combustion process through heat absorption and chemical interaction. The clean agent is considered environmentally accepted substitute for Halon extinguishing agents harmful to the ozone layer used in the past.

Types of clean agents used

- HFC-236fa
- HFC-227ea

Main advantages

- Electrically non-conductive
- Non-corrosive
- Resistant to temperature changes
- Safe for people
- Leaves no residue
- Does not damage equipment, objects or sensitive devices
- Zero ODP (Ozone Depletion Potential)

Certifications

HFC-227ea: UL recognized and FM Approved
HFC-236fa: UL recognized

Application

Clean agent is an ideal choice for protection of enclosures where residue may be harmful to the protected sensitive devices. Due to the non-toxic concentration it can be safely used where people are present. The agent is suitable for Class A (creating flames), Class B, Class C and electrical fires.



Foam Agent

System BlazeCut uses high-end US manufactured foaming agent, which is environmentally friendly and has tremendous extinguishing performance.

Certifications: UL/ULC Listed Foam Liquid Concentrate, UL/ULC Listed Wetting Agent, MPA Dresden Listed, ICAO Certificate

Main advantages

- Environmentally formulated
- Non-corrosive
- 98% organic compounds
- Contains no PFOA or PFOS
- Zero hazardous chemicals
- Fully biodegradable

Application

Recommended for class A and B fires as well as for kitchen fires due to its high extinguishing performance and perfect results against re-ignition.



Powder Agent

System BlazeCut uses high quality German manufactured powder extinguishing agent.

Main advantages

- universal
- electrically non-conductive
- non-corrosive
- resistant to temperature changes

Application

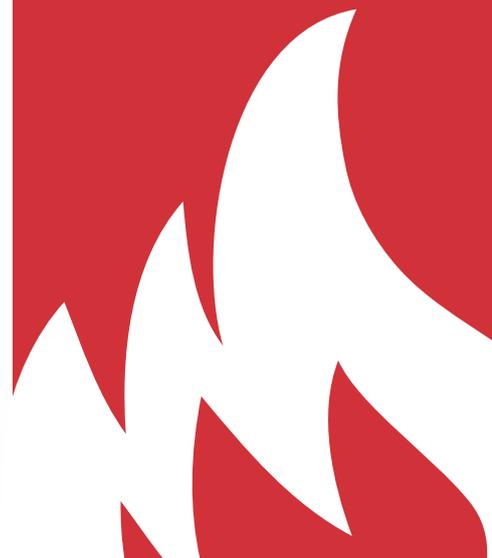
Most commonly used extinguishing agent due to its very good extinguishing performance and applicability against all fire classes.





Local
Application

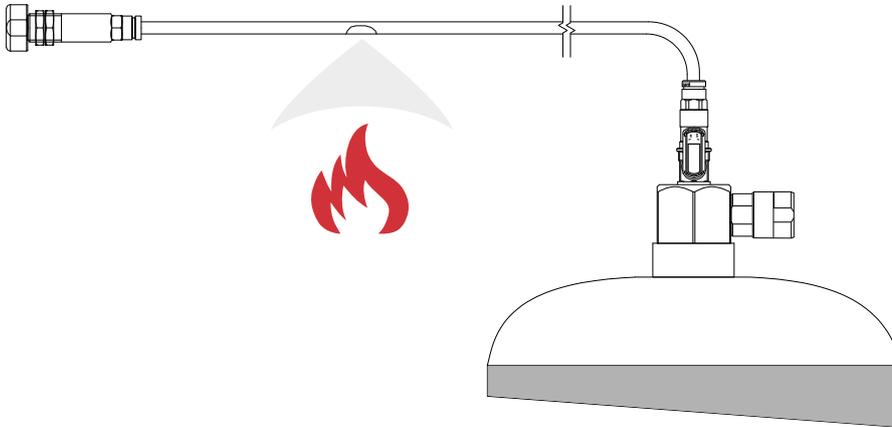
“C” Series



DLP vs. ILP System

Direct Low Pressure (DLP) System

BlazeCut systems are manufactured in two versions: Direct Low Pressure System and Indirect Low Pressure System. Use of each version is determined by the type and size of the enclosure.



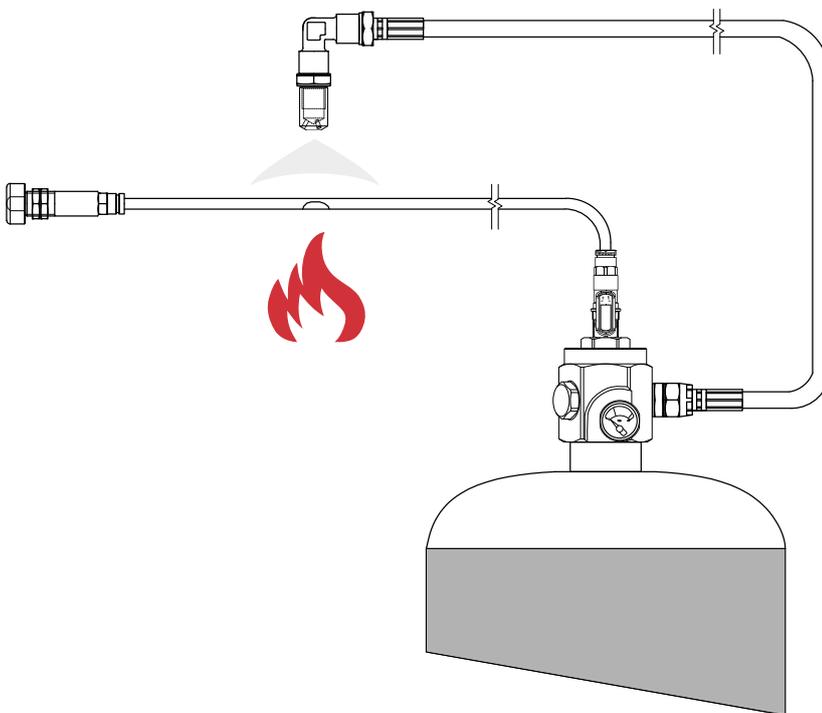
This system is referred to as direct, which means that the activation and distribution of the agent is secured by the detection tube.

The fire suppression system operates by detecting fire and applying the agent using a detection tube fastened to a cylinder valve. The detection tube is placed in the protected enclosure and is under constant pressure. In case of fire the detection

tube degrades by the effect of fire or high temperature. When the detection tube is disrupted, the agent is released through created hole. The detection system is independent of any electrical supply and operates solely on physical principles.

The direct system is suitable for smaller applications and combines easy installation with simple operation.

Indirect Low Pressure (ILP) System



This system is referred to as indirect, which means that it is activated by disruption of the detection tube and the agent is distributed via separate distribution tubes to the nozzles.

The fire suppression system operates by detecting heat with a detection tube connected to a valve of a cylinder. The tube is placed in the protected enclosure and is under constant pressure, whereby keeping the valve piston of the cylinder closed.

In case of fire the tube degrades by the effect thereof. The detection tube is disrupted, the pressure in it decreases and the valve piston of the cylinder opens. The fire suppression system activates and the entire extinguishing agent is released through the nozzles. The detection system is independent of any electrical supply and operates solely on physical principles.

The indirect system is suitable for larger environments or where specific application of the agent is required. This system also enables various modifications by adding optional components such as manual actuation, detectors, control panels for enhanced functioning and control of the system.



INDOOR APPLICATION

BlazeCut provides automatic fire suppression systems for indoor protection through its BlazeCut “C” Series local application systems. The systems are supplied with HFC clean agents, which are the best choice for protection of sensitive devices since they leave no residue after extinguishing. Additionally, the agent is completely non-corrosive, electrically non-conductive and safe for people. For special applications like kitchens the systems are supplied with the foam agent.

Typical applications include

- CNC machines
- Server racks
- Electrical cabinets
- Kitchens
- Fume cabinets
- Power generators
- Telecom tower shelters
- Ventilation devices
- Elevator engines
- Other

Technical specification (HFC-227ea)

Extinguishing agent: HFC-227ea

Type of system: DLP or ILP

Operation temperature: from -20°C to +60°C

Extrusion gas: nitrogen (N₂)

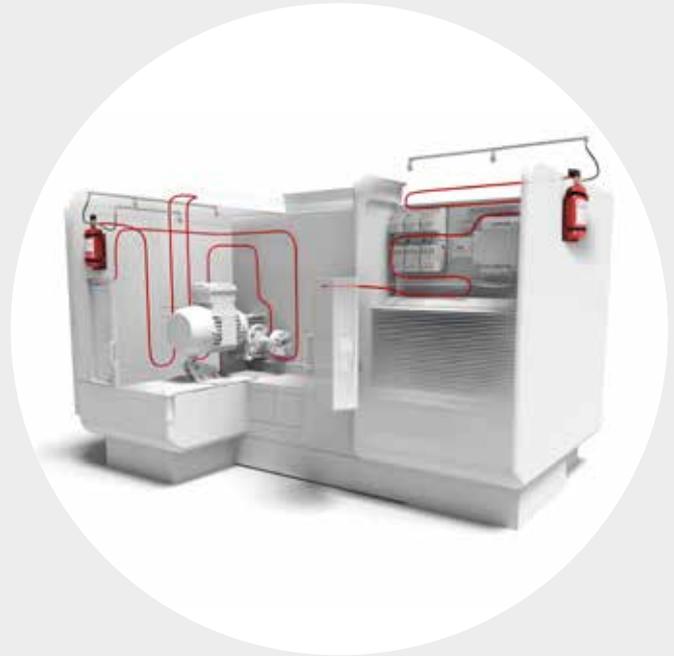
Technical specification (Foam)

Extinguishing agent: foam

Type of system: ILP

Operation temperature: from 0°C to +60°C

Extrusion gas: nitrogen (N₂)



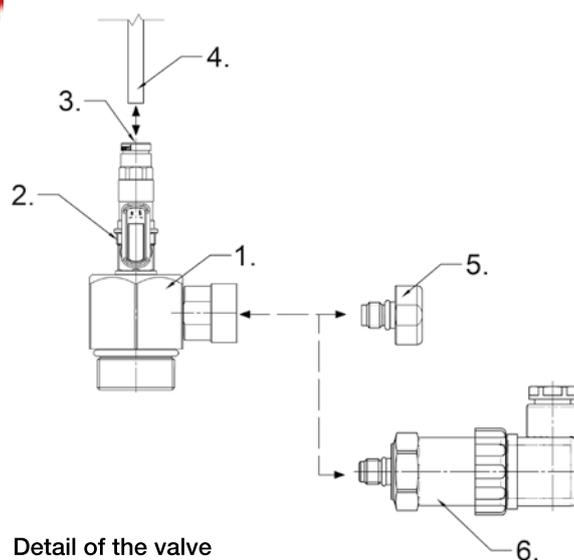
SPECIFICATION	
Type of Valve	DLP
Type of Agent	HFC-227ea
Amount of Agent	from 1 kg to 6 kg
Detection Tube	1 outlet, Ø 6 mm
System Approval	CE

Key Features

- The simplest direct system with one outlet for the detection tube Ø 6 mm
- Ready-to-install kit.

Optional components

- Pressure switch for connecting external signaling devices or controlling external systems.
- Audio-optical signaling devices for alerting in case of activation of the system.



Detail of the valve

1. Body of the valve
2. Ball valve
3. Detection tube connector, Ø 6 mm
4. Detection tube, Ø 6 mm
5. Pressure gauge
6. Pressure switch (Optional Component)



CDEA20 and CDEA25 Type

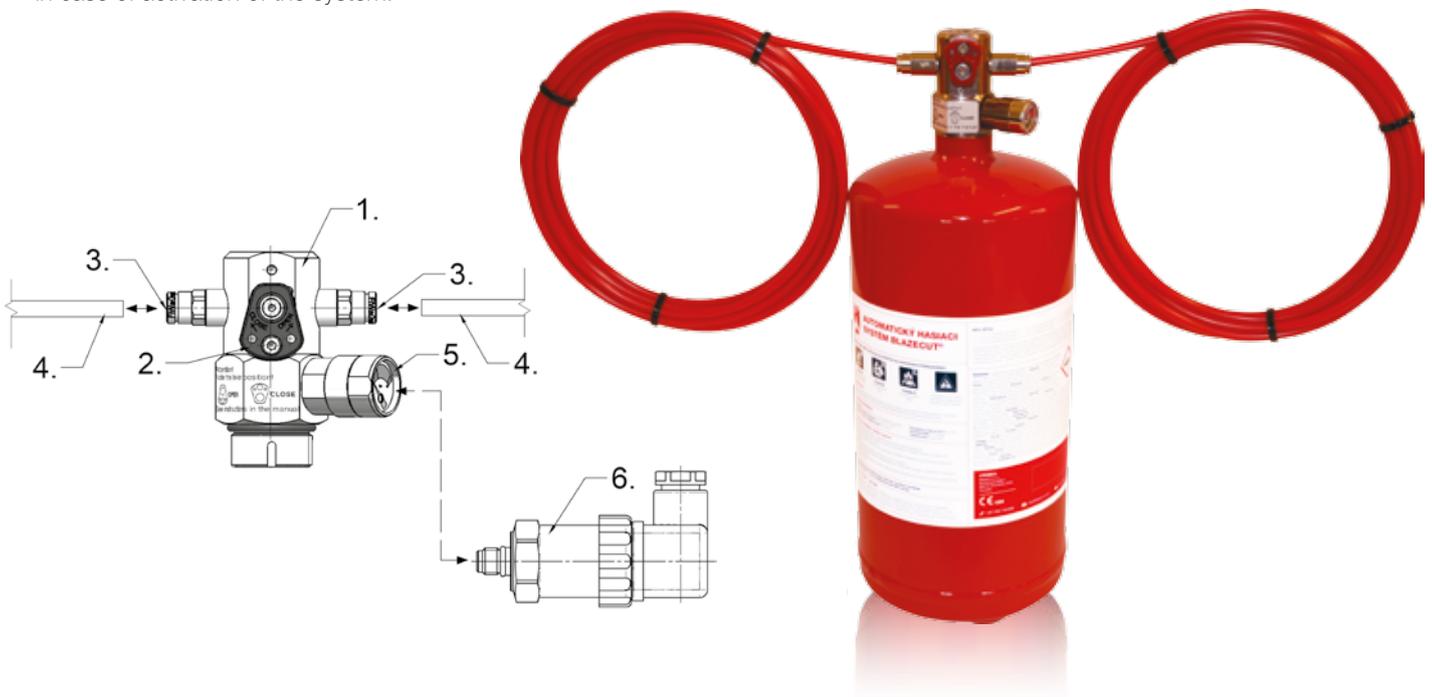
SPECIFICATION	
Type of Valve	DLP
Type of Agent	HFC-227ea
Amount of Agent	from 1 kg to 6 kg
Detection Tube	2 outlets, Ø 6 mm (CDEA20) or Ø 8 mm (CDEA25)
System Approval	CE

Key Features

- Direct system with two outlets for the detection tube with Ø 6 mm (CDEA20) or Ø 8 mm (CDEA25)
- Detection tube with Ø 8 mm has approx. 75% higher flow rate which secures faster discharge of the agent from the cylinder.
- With two detection tubes one system can protect two separate enclosures.
- Integrated ball valve eliminates accidental activation.
- Ready-to-install kit.

Optional components

- Pressure switch for connecting external signaling devices or controlling external systems.
- Audio-optical signaling devices for alerting in case of activation of the system.



Detail of the valve

1. Body of the valve
2. Open/Close lever of integrated ball valve
3. Detection tube connector, Ø 6 mm or Ø 8 mm
4. Detection tube, Ø 6 mm or Ø 8 mm
5. Pressure gauge
6. Pressure switch (Optional Component)

CDEA30 Type

SPECIFICATION

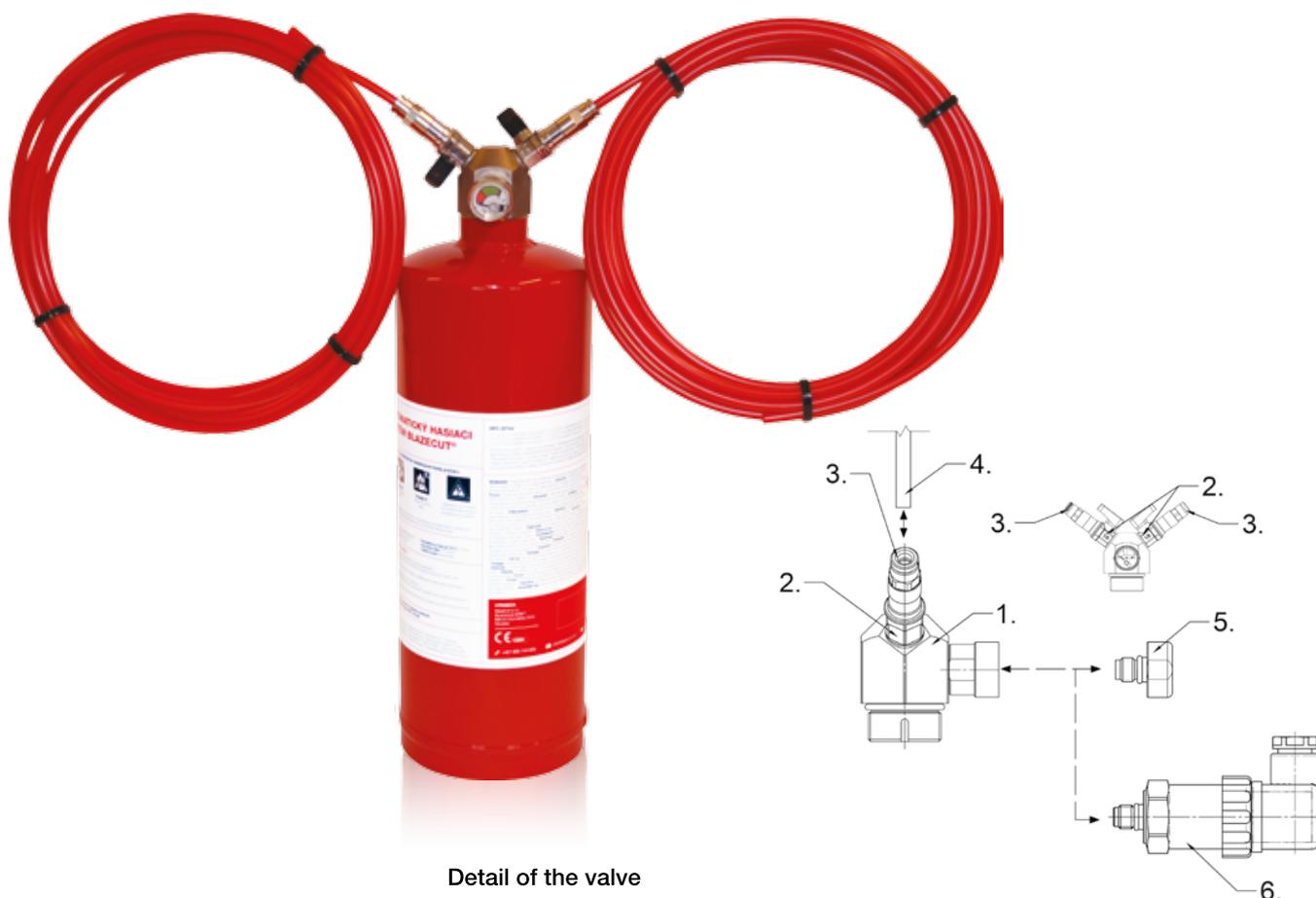
Type of Valve	DLP
Type of Agent	HFC-227ea
Amount of Agent	from 1 kg to 6 kg
Detection Tube	2 outlets, Ø 6 mm
System Approval	CE

Key Features

- Direct system with two outlets for the detection tube Ø 6 mm.
- With two detection tubes one system can protect two separate enclosures.
- Ready-to-install kit.

Optional components

- Pressure switch for connecting external signaling devices or controlling external systems.
- Audio-optical signaling devices for alerting in case of activation of the system.



Detail of the valve

- | | |
|-------------------------------------|---|
| 1. Body of the valve | 4. Detection tube, Ø 6 mm |
| 2. Ball valve | 5. Pressure gauge |
| 3. Detection tube connector, Ø 6 mm | 6. Pressure switch (Optional Component) |



SPECIFICATION

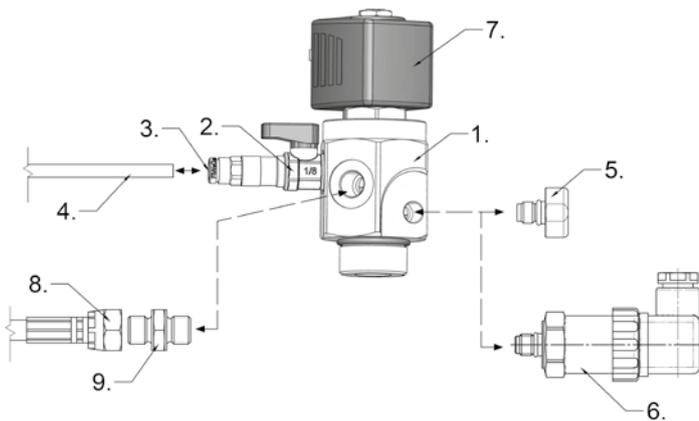
Type of Valve	ILP
Type of Agent	HFC-227ea
Amount of Agent	from 1 kg to 12 kg
Distribution Tube	2 outlets, fixed or flexible
Detection Tube	1 outlet, Ø 6 mm
System Approval	CE

Key Features

- Indirect system with the detection tube Ø 6 mm for fire detection.
- The system is supplied with one distribution branch or two distribution branches to cover multiple enclosures with one system.
- Multiple nozzle combination possible for specific application of agent.
- Includes a pressure switch as default to connect external signaling devices or to control external systems.
- Includes a solenoid as default to connect manual actuation of the system or fire detectors.
- Multiple cylinder combination possible to protect larger enclosures.

Optional components

- Audio-optical signaling devices for alerting in case of activation of the system.
- Fire detectors – smoke, heat or combination of both for fast fire detection.
- Manual electric actuator for manual release of the agent.



Detail of the valve

1. Body of the valve
2. Ball valve
3. Detection tube connector, Ø 6 mm
4. Detection tube, Ø 6 mm
5. Pressure gauge
6. Pressure switch
7. Solenoid
8. Distribution tube (one or two branches)
9. Straight connector



CDEA35 and CDF35 Type

SPECIFICATION

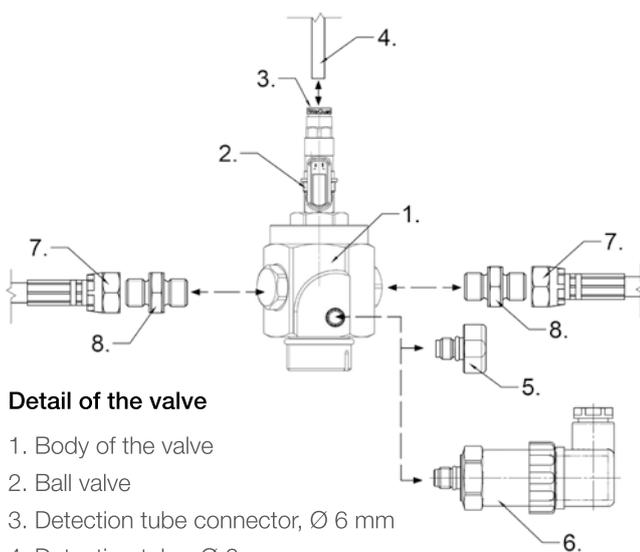
Type of Valve	ILP
Type of Agent	HFC-227ea or Foam
Amount of Agent	up to 12 kg/14 L
Distribution Tube	2 outlets, fixed or flexible
Detection Tube	1 outlet, Ø 6 mm
System Approval	CE

Description

- Indirect system with the detection tube Ø 6 mm for fire detection.
- The system is supplied with one distribution branch or two distribution branches to cover multiple enclosures with one system.
- Multiple nozzle combination possible for specific application of agent.
- Multiple cylinder combination possible to protect larger enclosures.

Optional components

- Pressure switch for connecting external signaling devices or controlling external systems.
- Audio-optical signaling devices for alerting in case of activation of the system.
- Manual actuator – switch for manual activation of the system independent of power supply.
- Solenoid switch – automatic release of pressure from the detection tube after receiving signal from external device (control panel, detection device).
- Fire detectors – smoke, heat or combination of both for fast fire detection.



Detail of the valve

1. Body of the valve
2. Ball valve
3. Detection tube connector, Ø 6 mm
4. Detection tube, Ø 6 mm
5. Pressure gauge
6. Pressure switch (Optional Component)
7. Distribution tube (one or two branches)
8. Straight connector



PROTECTION OF VEHICLES AND MACHINES



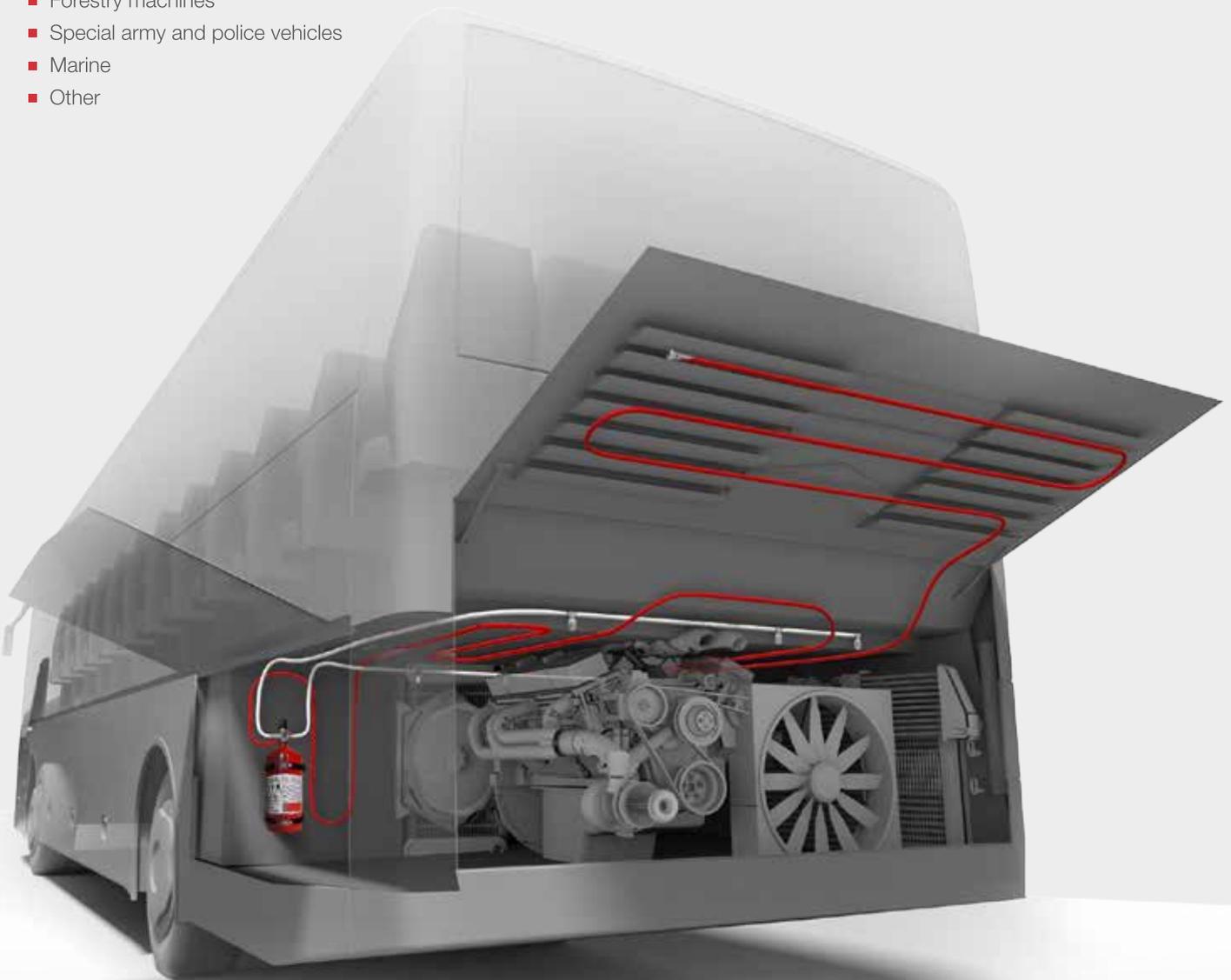
BlazeCut “C” Series Systems can be installed to protect the engine compartment of any vehicle or machine ranging from standard truck or van to heavy forestry or mining machine.

This product line is supplied in clean agent, powder agent or foam agent version.

Systems for vehicles and machines are specially designed to sustain harsh environments and are supplied as a ready-to-install kits.

Typical vehicle and machine applications include

- Buses and coaches
- Trucks and vans
- Construction vehicles
- Agricultural vehicles
- Mining machines
- Forestry machines
- Special army and police vehicles
- Marine
- Other



ILP Systems

Key Features

- Distribution of agent by separate tubing
- Better application of agent by nozzles and enhanced fire suppression ability
- Ideal for bigger spaces and harsh environments
- Detection system independent of any power supply
- Control unit monitoring the condition of the system with a backup battery
- Sound and light fire alert
- Switch for manual discharge of the system
- Supplied as a ready-to-install kit

Clean Agent: CVEA10 and CVFA10 Type

SPECIFICATION	
Type of Valve	ILP
Type of Agent	HFC-227ea (CVEA10) or HFC-236fa (CVFA10)
Amount of Agent	from 2 kg to 12 kg
Distribution Tube	2 outlets, flexible
Detection Tube	1 outlet, Ø 6 mm
System Approval	CE

Technical specification

- Type of agent: HFC-227ea or HFC-236fa
- Operation temperature: from -20°C to +60°C
- Extrusion gas: nitrogen (N₂)

Foam Agent: CVF10

SPECIFICATION	
Type of Valve	ILP
Type of Agent	foam
Amount of Agent	from 5 L to 14 L
Distribution Tube	2 outlets, flexible
Detection Tube	1 outlet, Ø 6 mm
System Approval	CE

Technical specification

- Type of agent: foam
- Operation temperature: from 0°C to +60°C, optional foaming agent down to -40°C
- Extrusion gas: nitrogen (N₂)

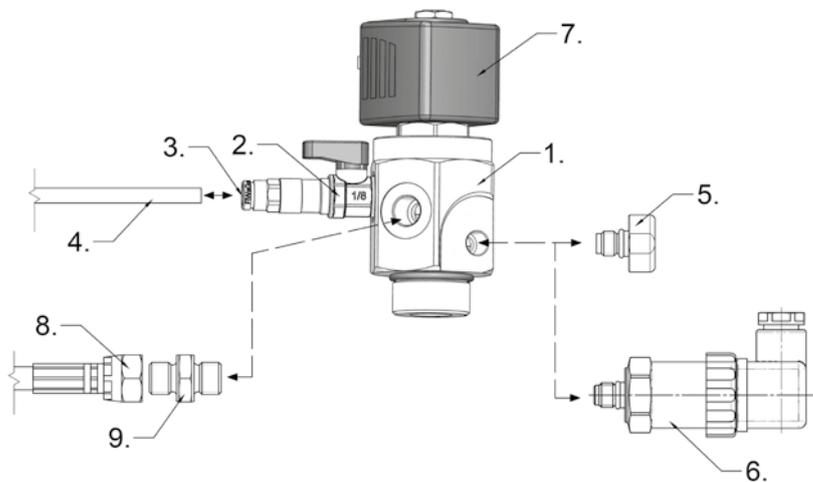


Powder Agent: CVP10

SPECIFICATION	
Type of Valve	ILP
Type of Agent	powder
Amount of Agent	from 2 kg to 10 kg
Distribution Tube	2 outlets, flexible
Detection Tube	1 outlet, Ø 6 mm
System Approval	CE

Technical specification

- Type of agent: powder
- Operation temperature: from -20°C to +60°C
- Extrusion gas: nitrogen (N2)



Detail of the valve

1. Body of the valve
2. Ball valve
3. Detection tube connector, Ø 6 mm
4. Detection tube, Ø 6 mm
5. Pressure gauge
6. Pressure switch
7. Solenoid
8. Distribution tube (one or two branches)
9. Straight connector



DLP Systems

Key Features

- Distribution and activation is secured by the detection tube
- Suitable for smaller and tight spaces
- Detection system independent of any power supply
- Signaling unit monitoring the condition of the system with a backup battery
- Sound and light fire alert
- Supplied as a ready-to-install kit

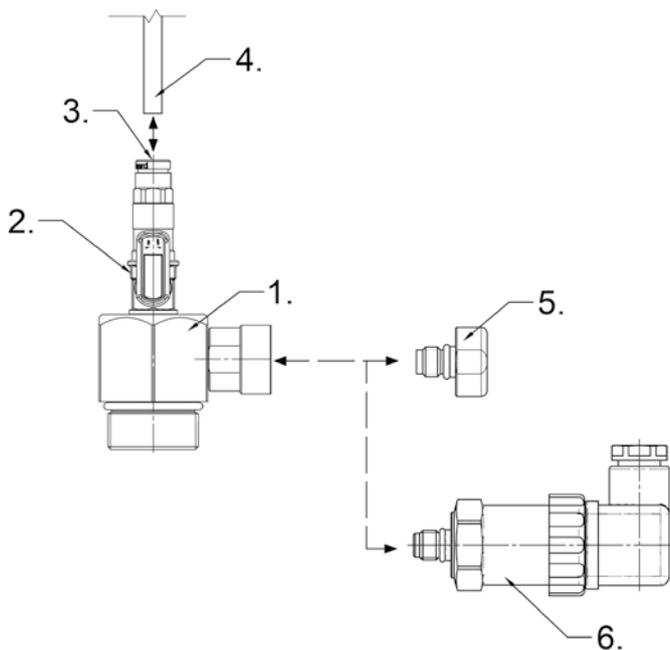
CVEA15 and CVFA15

SPECIFICATION

Type of Valve	DLP
Type of Agent	HFC-227ea (CVEA15) or HFC-236fa (CVFA15)
Amount of Agent	from 2 kg to 6 kg
Detection Tube	1 outlet, Ø 6 mm
System Approval	CE

Technical specification

- Type of agent: HFC-227ea or HFC-236fa
- Operation temperature: from -20°C to +60°C
- Extrusion gas: nitrogen (N₂)



Detail of the valve

1. Body of the valve
2. Ball valve
3. Detection tube connector, Ø 6 mm
4. Detection tube, Ø 6 mm
5. Pressure gauge
6. Pressure switch to connect the control unit





STANDARD COMPONENTS

Detection Tube

The heart of each BlazeCut system with Ø 6 mm or Ø 8 mm to detect fire. Red color.



Fixed Distribution Tube

Zinc plated steel tubing for distribution of agent to nozzles. Suitable for fixed installation, high durability. Available in various lengths and dimensions to achieve the best flow rate.



Flexible Distribution Tube

Flexible tubing for distribution of agent to nozzles used in vehicles and spaces where fixed distribution tubing is difficult to install. The tube has very high temperature resistance and is reinforced by a stainless steel knit which provides perfect durability in harsh environments. Available in various lengths and dimensions to achieve the best flow rate.



Rubber Tube

Rubber tube for connection of the valve to the distribution tubing.



Foam Nozzles

Nozzles for the foaming agents. Various types available depending on the type of application.



Clean Agent Nozzle

Three-bore nozzles for clean agent applications.



Powder Nozzles

Various powder nozzles with one or two slots and different angles to achieve the best application of powder.



Quick Connectors

"T", elbow or straight connectors for quick connection of Ø 6 mm or Ø 8 mm detection tube.



Protective Spiral

Protection of the detection tube in harsh environments.



STANDARD COMPONENTS

Standard Fittings

"T", elbow or straight fittings for connection of the rubber tube, flexible distribution tubes and nozzles.



Nut Fittings

"T", elbow or straight fittings for connection of steel tubing.



Reductions

Various reductions between rubber, flexible and steel tubing.



End of Line Adapter

End of Line Adapter seals the end of the detection tube. It includes filling port for pressurization and pressure gauge to inspect the pressure of the system. The optional components Manual Actuator or Solenoid Switch have the same functions.



Control Unit

Audio-optical signalization for vehicle applications with ILP system. It includes a manual release switch, a "ready" control light and a backup battery.



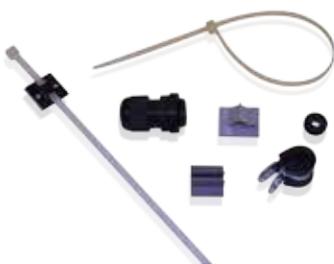
Signaling Unit

Audio-optical signaling device for vehicle applications with DLP system. It includes a "ready" control light with a backup battery.



Installation Material

Various cable ties, grommets, break-through panels, mounting clamps and other installation material is available for easy installation.



OPTIONAL COMPONENTS

PRESSURE SWITCH

BC001

Sends electronic signal when the pressure decreases under the required value. The pressure switch informs by sending signal to the external control unit or can control external systems and ensure performing the necessary processes by external devices (switching off electrical current, stopping operation of the system etc.).



SOLENOID SWITCH

BC002

Operates on the principle of automatic release of pressure from the detection tube after receiving signal from the external device (external control unit, fire alarm, smoke detector etc.).



MANUAL ACTUATOR

BC003

Manually releases the pressure from the detection tube, activating the suppression system and completely releasing the extinguishing agent.



SIGNALING UNIT

BC004

Simple and cost effective audio-optical signaling device.



XENON BEACON

BC005

Red xenon beacon for greater visibility in case of activation of the system.



MULTI TONE SOUNDER

BC006

Multi tone and high sound output for audible fire alert.



SOUNDER AND BEACON

BC007

Combined heavy duty audio-optical signaling device.



DETECTORS

BC008 and BC009

Smoke detector or combined smoke and heat detector with self-diagnostic function to prevent false alarms.



MANUAL ELECTRIC ACTUATOR

BC010

Provides manual release of the agent by breaking glass and pushing the button.





Small
Application

"T" Series



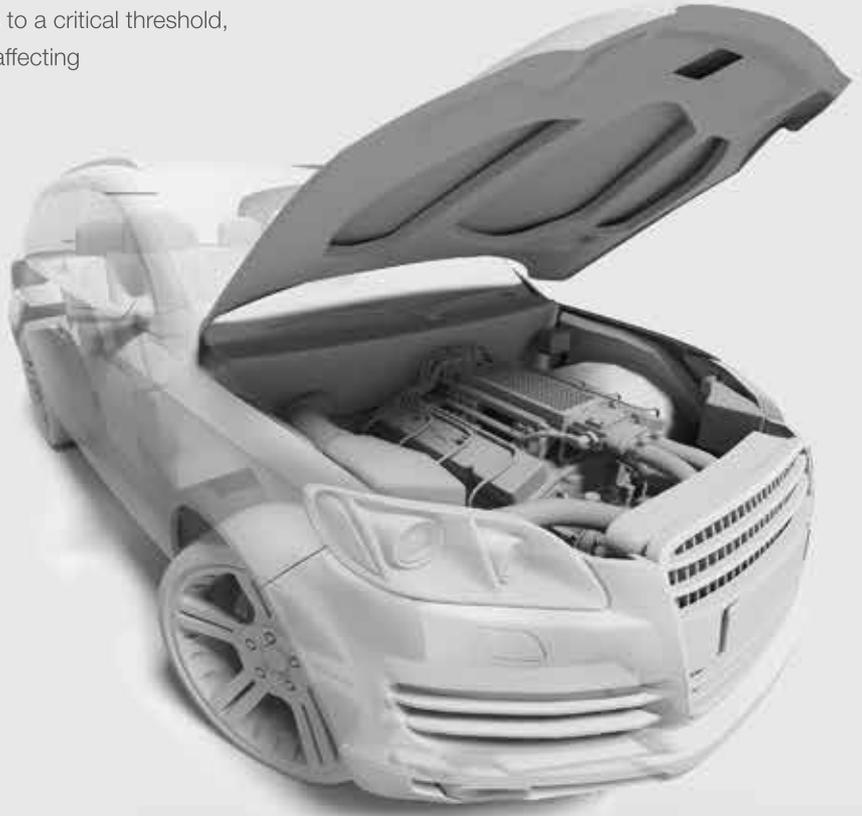
DESCRIPTION

BlazeCut system operates automatically independent of any power supply by detecting higher temperatures. When the temperature in the protected enclosure rises to a critical threshold, the detection tube melts down at the point where the affecting temperature is the highest. Melting the tube creates a hole releasing the entire extinguishing agent stored in the tube onto the source of the fire.

The system consists of a heat sensitive tube made of special plastic which is closed by a stainless steel fitting on each end. The tube has both storage and detection function which means that the extinguishing agent is stored directly in the tube and no additional storage device like cylinder is needed.

These systems are supplied with clean agents HFC-227ea or HFC-236fa.

Typical applications include electrical enclosures or engine compartments of vehicles, machines or pleasure boats.



ELECTRICAL ENCLOSURES

TDX00EA Types

BlazeCut “T” Series systems effectively protect electrical spaces and stop the fire from spreading outside of the protected enclosure whereby preventing severe damage and losses.

TECHNICAL SPECIFICATION

Type of Agent	HFC-227ea
Amount of Agent	Up to 1 kg
Length of System	Up to 4 m
Maximum Volume of Protected Enclosure	Approx. 1 m ³
Color of Tube	natural

The system for indoor applications in electrical enclosures can be equipped with optional components

- Pressure Switch BC001 is mounted on the opposite fitting of the tube to monitor the pressure of the system and is connected to the signaling unit.
- Signaling Unit BC004: Simple and cost effective audio-optical signaling device.

Typical application includes but is not limited to

- Electrical cabinets
- Fuse boxes
- Racks
- Audio-video equipment
- Battery spaces
- Network and cable installations



ENGINE COMPARTMENTS

TVX00FA Types

BlazeCut “T” Series systems help protect engine compartments by capturing the starting fire or by suppressing the fire giving the crew time for further action. Easy installation, no maintenance and affordability makes this system a perfect first line fire protection of the engine compartment of small vehicles and pleasure boats.

TECHNICAL SPECIFICATION	
Type of Agent	HFC-236fa
Amount of Agent	Up to 1 kg
Length of System	Up to 4 m
Maximum Volume of Protected Enclosure	Approx. 1 m ³
Color of Tube	natural

The “T” Series systems are suitable for the following applications

- On-road vehicles (cars, vans, SUVs, old-timers)
- Off-road vehicles (small construction or agricultural vehicles, forklift trucks, golf carts etc.)
- Pleasure boats (inboard and outboard engines)



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Quality Assurance

The BlazeCut production facility is ISO 9001:2009,
ISO 14001:2005 and AQAP 2110:2009 certified.



Tested and Approved Products

- CE Approval
- Certificate of Conformity with design documentation
- Performance and technical specification testing in accredited testing institute: Strojírenský zkušební ústav, s.p., Czech Republic

