

Local Application

"C" Series





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ABOUT US

Overview

The BlazeCut Company is a Fire Suppression System manufacturer and specialist that delivers the latest in technologies. We focus on providing top performing systems manufactured to the highest quality. BlazeCut have improved the way a system can perform and protect you and your valuable assets in harsh high risk environments. Our systems are designed specifically for an application and protect all types of equipment and fixed plant.

Manufacturing and Development

With the BlazeCut Global Head Office in Australia, our manufacturing facility in Slovakia, Central Europe and worldwide support, we can provide cost effective fire protection solutions to customers quickly and efficiently. BlazeCut systems are manufactured according to the latest ISO9001, ISO14001, AQAP Quality managment and environmental standards, tested and approved by several authorities. All systems are tested at our inhouse testing facility as well as by accredited testing institutes. We are committed to customer satisfaction. Our every inquiry is held individually to provide tailor made solutions that fit our customers needs.



Global Network

BlazeCut focuses to build a network of distribution partners in the different regions around the world to ensure that the users get the best support possible.

BlazeCut has strategically positioned local offices and Sales support personnel around the globe.



Market & Industry Examples



Agricultural



Automotive



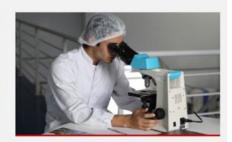
Airports & Aviation



Chemicals



Defense



Healthcare



Manufacturing



Marine



Mass Media



Mining



Nuclear Power



Safety & Rescue



Power Generation



Telecommunication



Renewable Energy

FIRE CLASS RATINGS

Description

A	Ordinary combustibles (wood, paper, fabric, refuse)	Class A	Class A	Class A
B	Flammable liquids	Class B	Class B	Class B
<u>000</u>	Burning gases	Class C	Class C	Class B
	Flammable metals	Class D	Class D	Class D
E	Energised electrical equipment	Not classified	Class E	Class C
<u></u>	Cooking oils and fats	Class F	Class F	Class K

Europe Australia United States

FIRE BASICS

The Fire Triangle



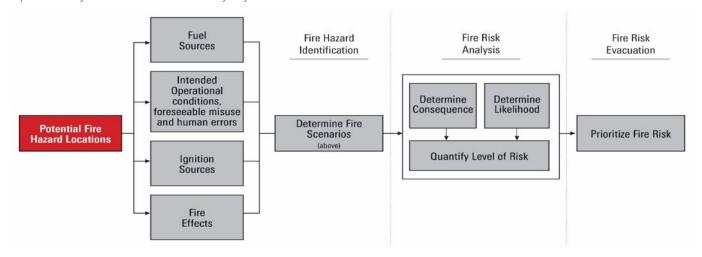
Each element of the Fire Triangle must be in place for combustion to occur. The fire is extinguished when one of the elements is removed from the reaction. The longer this takes the harder it is to suppress the fire as it transforms from a surface fire to a substance fire.

^{*}Check your local country regulations for the correct fire classes. The above information is for guidance only.

RISK ASSESSMENTS

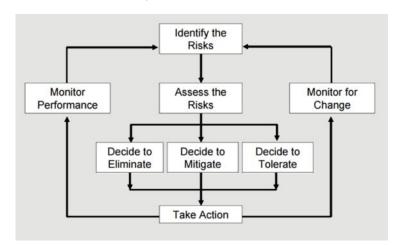
The first step before commencing any design, installation or upgrade of a fire suppression system, is to carry out a risk assessment. A Risk Assessment is an essential component of designing any fire suppression system. You need to be aware of exactly what risks need to be covered on any piece of equipment before the best solution can be achieved or the chance of something happening that will have a negative impact on the health or safety of a person and/or equipment may be increased.

A Risk assessment is the best way to identify all possible risks uniquely associated with any type of equipment assessed. Risk assessments involve a detailed and systematic examination of the equipment. The equipment's activity, location and operational system is assessed to identify any hazards.



Risk Assessment Process

A very simple process is used to determined what is required to minimize the risks



Risk Assessment and Control Chart

RAC Chart - Risk Assessment and Control Chart to evaluate and score the risk levels

LIKELIHOOD	CONSEQUENCE			
LIKELIHOOD	CATASTROPHIC	CRITICAL	MARGINAL	NEGLIGIBLE
FREQUENT	20	18	15	5
PROBABLE	19	16	11	4
OCCASIONAL	17	13	8	3
REMOTE	14	12	7	2
IMPROBABLE	10	9	6	1
RISK SCORE	HIGH	MODERATE	LOW	VERY LOW

EXTINGUISHING AGENTS

Each environment is different, so choosing the right agent is critical. The BlazeCut system contains commonly used and known agents such as FK-5-1-12 Clean agent, HFC-227ea gaseous clean agent, foam agent or dry chemical powder agent.

FK-5-1-12 Clean Agent

FK-5-1-12 Clean agent fluid is a next-generation halon and HFC replacement, designed to address concerns for human safety, performance and the environment. FK-5-1-1-12 clean agent is stored as a liquid; however, it turns into gas upon discharge. The fluid combines the key features of HFC gases with sustainable clean agent protection.

Main features

- Zero ODP (ozone depletion potential)
- A global warming potential of less than one
- A five-day atmospheric lifetime
- A large margin of safety for occupied spaces



UL recognized and FM approved

Application

As a clean agent, FK-5-1-12 leaves no residue and will not affect sensitive electronics and devices. It is an ideal choice for the environment due to significant reduction in greenhouse gas emissions. The agent is suitable for Class A, Class B, Class C and Class E (electrical fires).

Foam Agent/ Antifreeze Foam Agent

The BlazeCut systems use a high-end foaming agent, which is environmentally formulated and has tremendous extinguishing performance.

Main features

- Environmentally formulated
- Non-corrosive
- 98% organic compounds
- Zero discharge of hazardous chemicals

Approvals

- UL/ULC Listed Foam Liquid Concentrate
- UL/ULC Listed Wetting Agent
- MPA Dresden Listed
- ICAO Certificate

Application

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













EXTINGUISHING AGENTS

HFC-227ea Clean Agent

HFC-227ea clean extinguishing agent is a liquefied gas used for volume fire suppression. HFC clean extinguishing 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 a chemical interaction. HFC clean extinguishing agent is considered environmentally accepted substitute for Halon extinguishing agents used in the past, which are harmful to the ozone layer.

Main features

- 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)







Approvals

■ HFC-227ea: UL recognized and FM Approved

Application

HFC clean extinguishing agent is an agent of choice for protection of enclosures where residue may be harmful to the protected sensitive devices. The agent is suitable for Class A, Class B, Class C and Class E (electrical fires).

Powder Agent

The BlazeCut systems use a high quality powder extinguishing agent.

Main features

- Universal applications
- Electrically non-conductive
- Resistant to temperature changes

MPA Dresden

Approvals

MPA Dresden Listed

Application

Most commonly used and cost-effective extinguishing agent due to its very good extinguishing performance against Class A, Class B, Class C and Class E (electrical fires).

C SERIES SYSTEMS

The BlazeCut Solution

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

BlazeCut's fully customisable system options provide the features and functions that you require to protect your asset.

Advantages

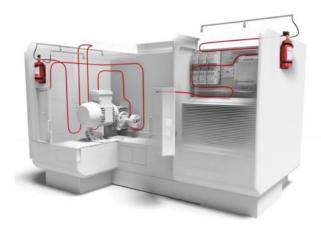
- Fully automatic and autonomous
- Independent of electricity
- Fast Detection
- High efficiency of extinguishing agent
- Possibility to manually activate the system
- One system can cover more space
- Harmless to humans and protected devices
- Variety of additional components
- Simple installation and maintenance
- Cost-effective life value

Typical applications

- Electrical cabinets
- Server racks
- CNC machines
- Telecommunications equipment
- Generators
- Vending machine
- Manufacturing equipment
- Laser cutters
- 3D Printers

- Buses and coaches
- Trucks and vans
- Construction vehicles
- Agricultural machinery
- Mining machines
- Forestry machines
- Specialized military
- Emergency & police vehicles
- Marine





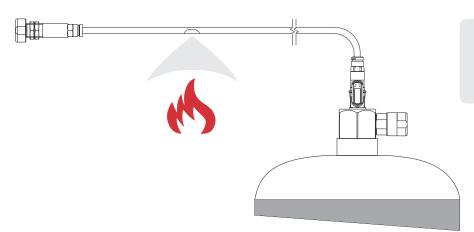




DLP vs. ILP System

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.



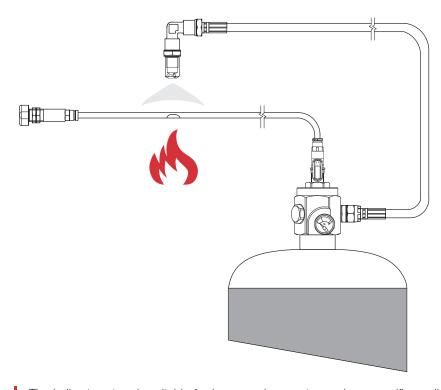
This system is referred to as direct, which means that the activation and distribution of the agent is secured by the detection tube.

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



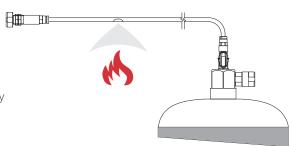
This system is referred to as indirect, which means that it is activated by disruption of the detection tube and the agent is distributed via separate distribution tubes to the nozzles.

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 ruptured, 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.

Key Features

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

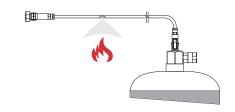


CPO15 / CPO25 Series

SPECIFICATION					
Type of Valve	DLP				
Type Code	CPO15	CPO25			
Type of Agent	ABC Powder	ABC Powder			
Amount of Agent	From 1 kg to 6 kg	From 1 kg to 9 kg			
Detection Tube	1 outlet, Ø 6 mm	2 outlets, Ø 8 mm			
Extrusion Gas	Nitrogen (N2)				
Operation Temperature	From -20°C to +60°C				
System Approval	CE				







SPECIFICATION					
Type of Valve	DLP				
Type Code	CNO15 CEA15				
Type of Agent	FK-5-1-12 Clean Agent	HFC-227ea			
Amount of Agent	From 1 kg to 8 kg	From 1 kg to 6 kg			
Detection Tube	1 outlet, Ø 6 mm				
System Approval	CE				

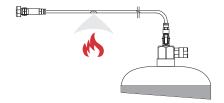
Key Features

- \blacksquare The simplest direct system with one outlet for the detection tube Ø 6 mm.
- Ready-to-install kit.
- Cost-effective solution for small 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.





CNO20 / CEA20 and CNO25 / CEA25 Series

SPECIFICATION					
Type of Valve	DLP				
Type Code	CNO20 CNO25 CEA20 CEA25				
Detection BlazeTube	2 outlets, Ø 6 mm	2 outlets, Ø 8 mm	2 outlets, Ø 6 mm	2 outlets, Ø 8 mm	
Type of Agent	FK-5-1-12 Clean Agent		HFC-	227ea	
Amount of Agent	From 1 kg to 8 kg		From 1 kg to 6 kg		
System Approval	CE				

Key Features

- Direct system with two outlets for the detection tube with Ø 6 mm (CNO20/CEA20) or Ø 8 mm (CNO25/CEA25).
- Detection tube with Ø 8 mm has 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.

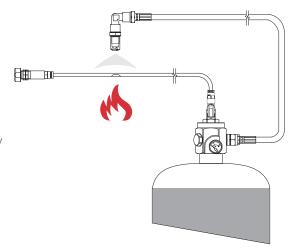


- 1. Body of the valve
- 2. Open/Close lever of integrated ball valve
- 3. Detection tube connector, Ø 6 mm or Ø 8 mm
- 4. Detection tube, \varnothing 6 mm or \varnothing 8 mm
- 5. Pressure gauge
- 6. Pressure switch (Optional Component)

CSF10 / CAF10 Series

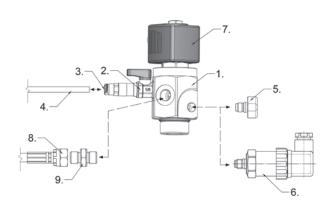
Key Features

- Distribution of agent by separate discharge network and nozzles
- Better application of agent by nozzles and enhanced fire suppression ability
- Ideal for bigger engine compartments and harsh environments
- 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 kits
- Electric detection options of BlazeWire or smoke/heat detectors



SPECIFICATION				
Type of Valve	ILP			
Type Code	CSF10	CAF10		
Type of Agent	Foam	Antifreeze Foam		
Amount of Agent	From 2 I to 76 I	From 2 I to 76 I		
Discharge outlets	1 or 2 outlets			
Detection options	BlazeWire - Electronic linear heat detector or BlazeTube - 1 outlet, Ø 6 mm LOP			
Expellant Gas	Nitrogen (N ₂)			
Operation Temperature	From 0°C to +60°C	From -20°C to +60°C		
System Approval	C	E		

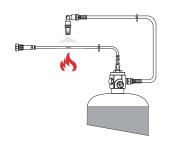




Detail of the valve

- 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

CNO10 / CEA10 / CPO10 Series



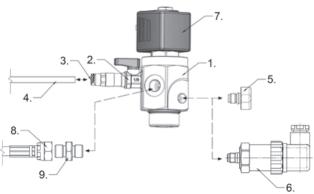
SPECIFICATION				
Type of Valve	ILP			
Type Code	CNO10 CEA10 CPO10			
Type of Agent	FK-5-1-12 Clean Agent	HFC-227ea	ABC Powder	
Amount of Agent	From 1 kg to 96 kg	From 2 kg to 72 kg	From 2 kg to 54 kg	
Discharge Outlets	1 or 2 outlets			
Detection options	BlazeWire - Electronic linear heat detector or BlazeTube - 1 outlet, Ø 6 mm			
System Approval	CE			

Key Features

- Indirect system with the detection tube Ø 6 mm for fire detection or with BlazeWire electronic linear heat detector.
- The system is supplied with one distribution branch or two distribution branches to cover multiple enclosures or for better coverage of the enclosure.
- Multiple nozzle combination possible for specific application of agent.
- Includes a solenoid actuator as default to connect various optional components for electrical actuation of the system.
- 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.
- Pressure switch to connect external signaling devices or to control external systems (equipment and power shut down).
- Linear heat cable as an electrical detection option to pneumatic detection tube.
- Control panel for enhanced operation and control of the system.



Detail of the valve

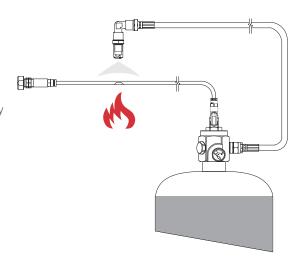
- 1. Body of the valve
- 2. Ball valve
- 3. Detection tube connector, Ø 6 mm
- 4. Detection tube, Ø 6 mm
- 5. Pressure gauge
- 6. Pressure switch
- 7. Solenoid
- 8. Distribution tube (one or two branches)
- 9. Straight connector



Key Features

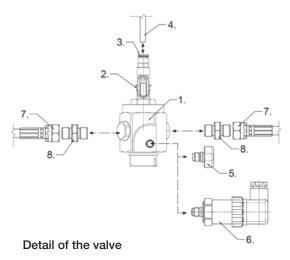
- Distribution of agent by separate discharge network and nozzles
- Better application of agent by nozzles and enhanced fire suppression ability
- Ideal for bigger engine compartments and harsh environments
- Detection system independent of any power supply
- Control unit monitoring the condition of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





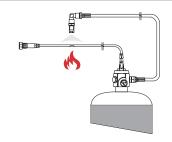
SPECIFICATION				
Type of Valve	ILP			
Type Code	CSF35	CAF35		
Type of Agent	Foam	Antifreeze Foam		
Amount of Agent	From 2 to 76	From 2 I to 76 I		
Discharge outlets	1 or 2 outlets			
Detection options	BlazeTube - 1 outlet, Ø 6 mm LOP Pneumatic valve operation			
Extrusion Gas	Nitrogen (N ₂)			
Operation Temperature	From 0°C to +60°C	From -20°C to +60°C		
System Approval	CE			





- 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





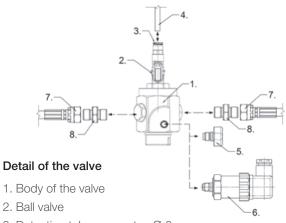
SPECIFICATION				
Type of Valve	ILP			
Type Code	CNO35 CEA35 CSF35			
Type of Agent	FK-5-1-12	HFC-227ea	Foam	
Amount of Agent	From 2 kg to 96 kg	From 2 kg to 72 kg	From 2 I to 76 I	
Discharge Outlets	1 or 2 outlets			
Detection Optoins	BlazeTube - 1 outlet, Ø 6 mm			
System Approval	CE			

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 or for better coverage of the enclosure.
- Multiple nozzle combination possible for specific application of agent.
- Multiple cylinder combination possible to protect larger enclosures.

Optional components

- Pressure switch to connect external signaling devices or to control external systems (equipment and power shut down).
- 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 electrical release of pressure from the detection tube after receiving signal from external device (control panel, detection device, manual electric actuator).
- Fire detectors, linear heat cable, control panel, manual electric actuator - only in combination with the solenoid switch.



- 3. Detection tube connector, \varnothing 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



STANDARD COMPONENTS

Fully Monitored Panel

Alarm panel 9 - 36 V DC, IP67, CE, EMC tested. State of the art panel in robust aluminium case. Features include shutdown delay, delay discharge, data logging, back-up battery, external or in dash installation. 100mm diamter



Signaling Panel

Alarm panel 9 - 36 V DC, IP65, CE, EMC tested. Simple and robust alarm panel in aluminium case. Internal or external installation. 50mm diameter with Fire Button



Signaling Panel

Alarm panel 9 - 36 V DC, IP65, CE, EMC tested. Simple and robust alarm panel in aluminium case. Internal or external installation. 50mm diameter **without** Fire button



Foam Nozzles

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



Powder Nozzles

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





Clean Agent Nozzle

Three-bore nozzles for clean agent applications.



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.



Fixed Distribution Tube

Stainless 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.



Rubber Tube

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



STANDARD COMPONENTS

Standard Fittings

"T", elbow or straight standard fittings for connection of rubber, flexible tubing and nozzles.

Rotary Fittings

Wide range of rotary fittings for connection of fixed tubing.

Reducer Fittings

Various reduced fittings between tubing and components.









Detection Tube

BlazeTube is the the heart of each BlazeCut LOP system with Ø 6 mm or Ø 8 mm to detect fires

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.

Quick Connectors

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







Linear Heat Detection

BlazeWire is the the heart of each BlazeCut LHD system, Linear heat detection wire is a monitored wire that can be used in virtually any application

Installation Material

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

Protective Spiral

Protection of the detection tube in harsh environments.





OPTIONAL COMPONENTS

Pressure Switch

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

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

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



Signalling Unit

Simple and cost effective audio-optical signaling device.



Beacon

Red xenon beacon for greater visibility in case of activation of the system. IP65 rated.



Muli Tone Sounder

Multi tone and high sound output for audible fire alert. IP65 rated.



Sounder and Beacon

Combined sounder and beacon provides an audio-visual warning which is suitable for places where high sound output and visual indication is required. IP44 rated.



Detectors

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



Electric Actuators

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



FIXED APPLICATION

BlazeCut provides automatic fire suppression systems for indoor protection through its BlazeCut "C" Series local application systems. The systems are supplied with FK-5-1-12 or HFC-227ea clean agents, which are the best choice for protection of sensitive devices since they leave no residues after extinguishing. Additionally, the agent is completely non-corrosive, electrically non-conductive and safe for people. For special applications like commercial kitchens the systems are supplied with the foam agent.

Typical applications include

- CNC machines
- Server racks
- Electrical cabinets
- Commercial kitchens
- Fume cabinets
- Power generators
- Telecom tower shelters
- Ventilation devices
- Elevator engine rooms
- Power supplies
- Wind turbines
- Gas and oil control stations
- Recharging stations
- Paint and chemical storage
- ATMs and ticket machines
- Other

Advantages

- High cost-effectiveness in comparison to the value of protected assets
- Automatic operation without any power supply
- Fast detection and high extinguishing efficiency
- Easy installation
- Low maintenance costs
- High variability to protect any enclosure
- Long operation lifespan
- Designed to sustain harsh environments
- Environmentally friendly and harmless extinguishing agents
- Safe for people







VEHICLES AND MACHINES

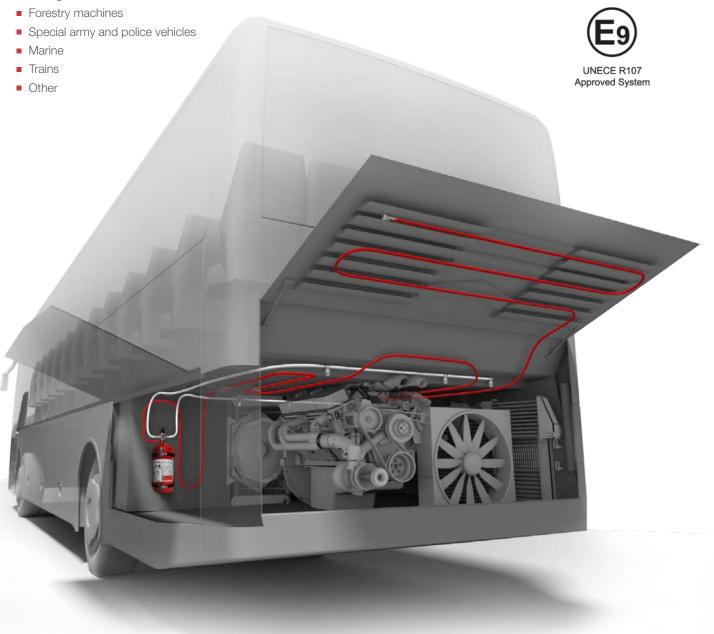
BlazeCut "C" Series Systems can be installed to protect the engine compartment of any vehicle or machine ranging from standard truck or van to heavy forestry or mining machine.

This product line is supplied in options of foam, powder FK5-1-12 or HFC clean agents.

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



NOTES

Global Head Office

- Australia, Sydney
- □ +61 2 8006 1300
- www.blazecut.com

Regional Sales Offices

- United States
- United Kingdom
- Sweden
- Singapore
- Chile
- Spain

Production Facility:

BlazeCut s.r.o.

Slovakia, Bernolákovo



Quality Assurance

The BlazeCut s.r.o production facility is ISO 9001, ISO 14001 and AQAP 2110 certified.





AQAP 2110

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









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