

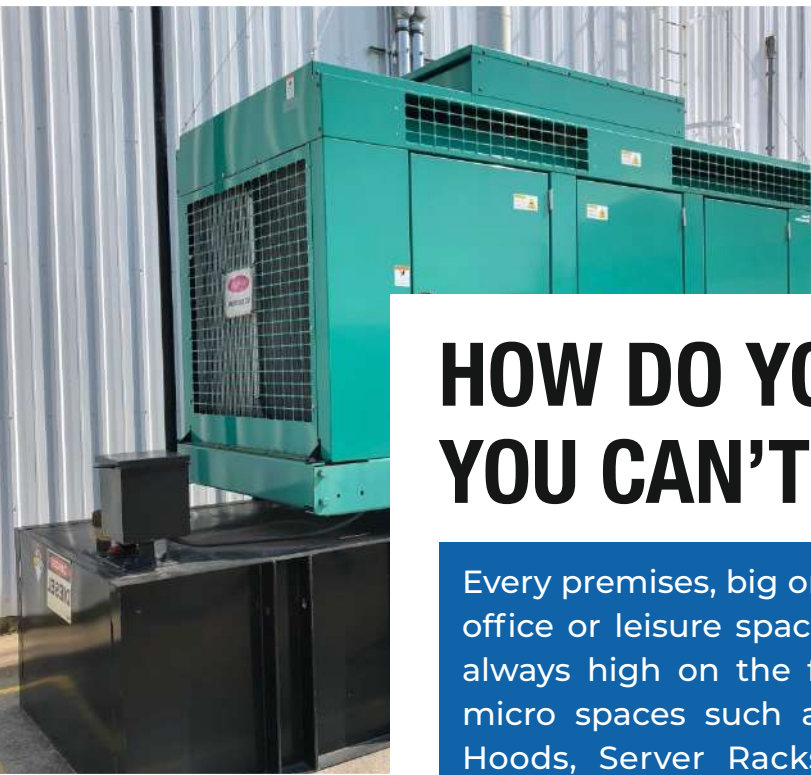
FIRE PROOFING



MICRO ENCLOSED SPACES



**CEASEFIRE TUBE BASED SUPPRESSION SYSTEMS
FOR HIGH RISK SMALL ENCLOSED SPACES**



HOW DO YOU FIGHT FIRE THAT YOU CAN'T EVEN SEE

Every premises, big or small, whether residential, commercial, office or leisure space, has certain vulnerable spots that are always high on the fire risk. These are also often enclosed micro spaces such as electrical panels, MCB boxes, Fume Hoods, Server Racks, Generators or CNC machines that become the source of fire due to a short circuit resulting from faulty wiring, loose fittings, power fluctuation or overheating.

Fire fighting in such high risk spaces becomes challenging due to the fact that they are enclosed in nature and often situated in a remote location within the premises, making manual fire detection impossible, till it reaches a point when flames have already reached dangerous intensity levels.

What makes matters worse for anyone trying to extinguish fire in such spaces is that they are most often electrically charged and live, making the risk of electrocution high. On the other hand, availability of trained firefighters at the site with appropriate fire extinguishing equipment with the right extinguishing agent, is never guaranteed.



ANSWERING THE CHALLENGE

Fire-proofing such high risk enclosed spaces in a premises many times is equal to fire-proofing the entire premises. This is because fault lines on fire safety are plugged in the premises when such spaces are safeguarded.

Need of the hour is of specialised fire suppression systems that are one, automatic in nature as manually monitoring such spaces 24x7 is virtually impossible and two, the suppression system must be specifically designed to protect such high risk enclosed spaces.



THE NEED OF THE HOUR

The need for automatic fire detection and suppression in such spaces is important also because the fire needs to be quelled the very minute it is detected and needs to be extinguished while it is still small. Any delay in this can easily lead to fire spreading into surrounding areas in a premises taking the fire emergency to a whole new level.

Whereas the need for suppression systems to be designed specifically for such spaces is important because the systems need to arrest the unique characteristics of the fire risk present in these spaces. Whenever we depend on generic fire safety equipment available at the premises like fire extinguishers or total flooding for such hot-spot spaces, it is often a delayed response and the damage is already caused.



Also, what is the point in flooding the entire room or premises with hundred KGs of extinguishant (could be expensive clean agent gas in a total suppression system present at the site or high-collateral damage- causing conventional agents like ABC powder or water) when all that was needed to be done was to extinguish flames in a small cabinet.

CEASEFIRE IN-PANEL SOLUTIONS

1.) CEASEFIRE IN-PANEL TUBE BASED SUPPRESSION SYSTEMS (CQRS)



Direct Systems



Indirect Systems

2.) CEASEFIRE MINI (MICRO-ENVIRONMENT FIRE SUPPRESSION)



Adaptive



Intuitive



A GROUND-BREAKING FIREFIGHTING SOLUTION

Fights Fire That You Can't Even See.

1.) CEASEFIRE IN-PANEL TUBE BASED SUPPRESSION SYSTEMS (CQRS)

Considering the need for automatic fire protection, Ceasefire presents an In-Panel Tube Based System for micro enclosed spaces, specifically designed to protect high risk enclosed spaces. This system is driven by a Heat Sensing Tube based fire detection and a mechanical and automatic fire suppression by a localised fire extinguishant available in a stored-pressure form.

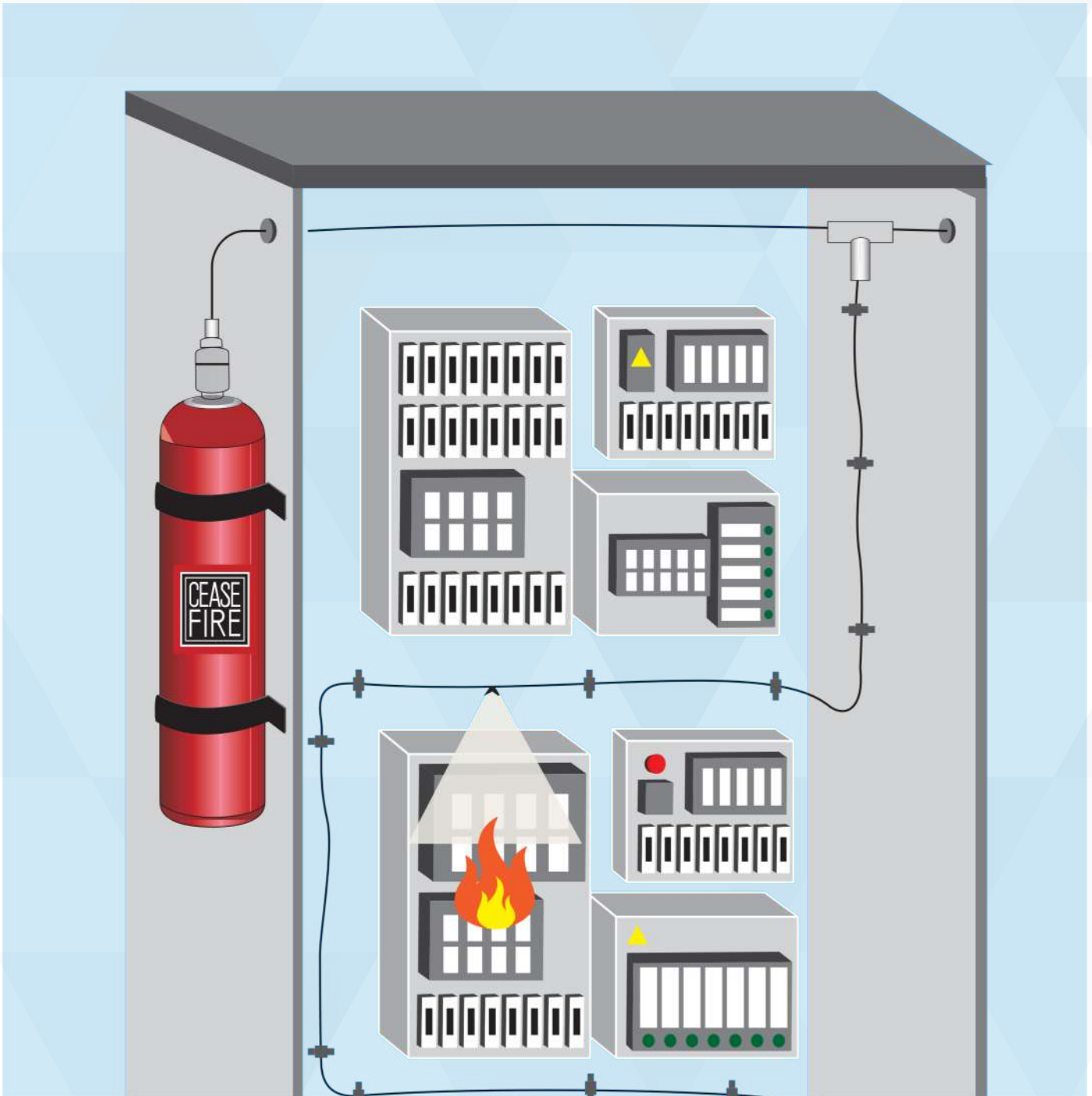
The system is designed specially to protect high risk enclosed spaces considering the complex construction, shape and characteristics of such spaces such as electrical panels, MCB boxes, server racks, CNC machines, etc where the fire risk is randomly distributed inside these spaces and any point inside could become a source of fire due to the complex nature of wirings, integrated circuits, fuses and power connections present inside.



A signature component in Ceasefire's In-Panel Tube Based Systems is the specially designed heat-sensitive pneumatic polymer tube. In the event of a fire, the heat-sensitive tube detects an increase in temperature and bursts upon coming into contact with flames, activating the system automatically and extinguishing the fire at the source.

HOW THE SYSTEM WORKS?

This heat-sensitive pneumatic polymer tube is connected to an extinguishing agent container at one end, while the rest of it runs unobtrusively inside the micro space that needs to be fire protected, covering all high risk points inside the space. In the event of a fire, the flames come in contact with this heat-sensitive tubing and upon reaching a temperature level of 150° - 180°C, this tube bursts open and activates the system.

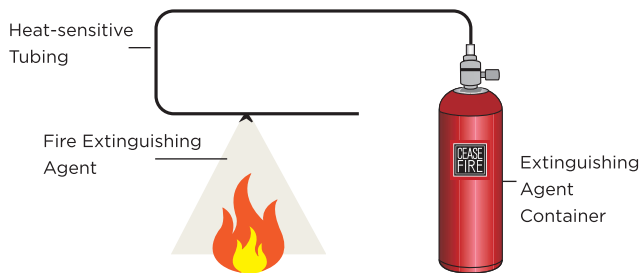


The technology makes this system entirely self-activated, and requires no human intervention once it has been installed. This makes it especially beneficial for high risk micro- environments that are vulnerable to fire and cannot be manually monitored 24x7.

THE TWO PRIME SYSTEM VARIANTS

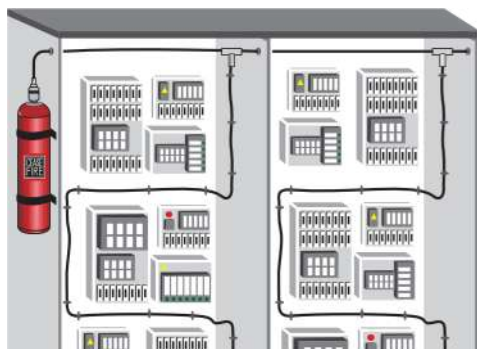
The system is available in two prime technologies and the choice of selection of

DIRECT SYSTEM



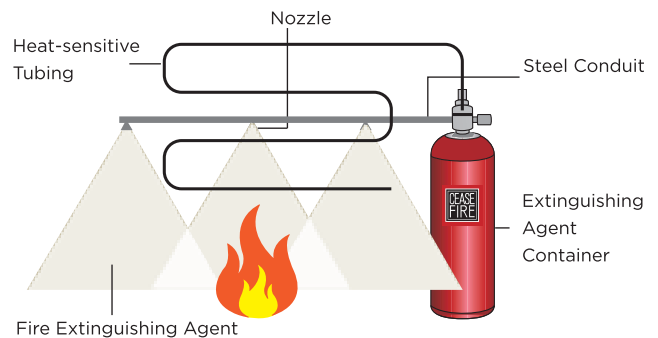
In the Direct System the heat-sensitive tubing acts as an extinguishing agent delivery system. The tube bursts at the point where the fire is detected, forms a miniature nozzle and sprays the extinguishing agent. This system can run intricately and unobtrusively through Panels, MCBs, Gensets and electrical mains boxes that are often compartmentalised in nature, and is triggered instantly and automatically.

This eliminates the need for human intervention and provides a swift and comprehensive solution. This is available in low-pressure and high-pressure systems.



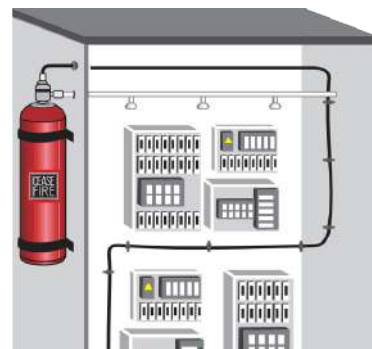
The system variant depends upon the nature of the space that needs to be protected.

INDIRECT SYSTEM



In the Indirect system, the heat-sensitive tubing only acts as a detection device. The extinguishing agent is delivered through a steel conduit and sprayed across the entire area through strategically placed nozzles.

This system configuration is ideal for spaces that are non-compartmentalised and total flooding in the entire cabinet / chamber is possible. For example, in a large electrical cabinet, where a voltage surge can short-circuit components at multiple locations and cause them to catch fire. This system variant too is available in both, low-pressure and high-pressure systems.



DIRECT SYSTEMS

	Fluoroketone (FK-5-1-12)	ABC Dry Powder (MAP 90)	Foam (Fluorine Free)	CO ₂
Direct Low Pressure	—	1 kg	1 ltr	—
	—	2 kg	—	—
	3 kg	—	3 ltr	—
	4 kg	4 kg	—	—
	6 kg	—	6 ltr	—
	9 kg	—	9 ltr	—
Direct High Pressure	—	—	—	2 kg
	—	—	—	5 kg



INDIRECT SYSTEMS

	Fluoroketone (FK-5-1-12)	ABC Dry Powder (MAP 90)	Foam (Fluorine Free)	CO ₂
Indirect Low Pressure	2 kg	2 kg	2 ltr	—
	3 kg	—	3 ltr	—
	4 kg	4 kg	—	—
	6 kg	6 kg	6 ltr	—
	9 kg	9 kg	9 ltr	—
Indirect High Pressure	—	—	—	2 kg
	—	—	—	5 kg
	—	—	—	22 kg



DIVERSE RANGE OF EXTINGUISHING AGENTS TO ADDRESS A VARIETY OF APPLICATIONS

Ceasefire's In-Panel Tube Based Suppression System offers flexibility of configuration not only in terms of the Direct and In-Direct System configuration, but also on the basis of wide variety of extinguishing agents like ABC MAP90 Powder, Fluoroketone (FK) and Foam (Fluorine Free) in Low-Pressure Technology, and CO₂ in High-Pressure Technology, making it possible for system designers to configure any type of a micro-environment suppression system to suit any kind of an application to address its unique fire risks.



ABC Powder MAP 90



Foam (Fluorine Free)


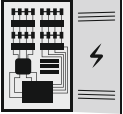


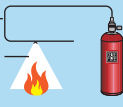
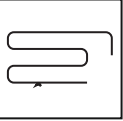





Fluoroketone (FK)



CO₂

SYSTEM FEATURES

	<p>Classification Fights Class A, B, C and Electrically started fires.</p>
	<p>Application Ideal for places where fires can break out in localised areas.</p>
	<p>Self – Contained Does not require any power supply and will function normally in the event of a power outage.</p>
	<p>Wide Choice of Agents The system comes in a host of extinguishing agents like ABC MAP90 Powder, Fluoroketone (FK), and Foam (Fluorine Free) in Low Pressure and CO₂ in High Pressure technology, making the system highly versatile and applicable to a large number of spaces.</p>
	<p>Instant Self-activation Eliminating the need for human intervention, the system is in a perpetual state of readiness to combat a fire as soon as it breaks out.</p>
	<p>Extended Reach Flexible tubing extends protection to areas that are difficult to access and may not be able to accommodate any other means of detection.</p>
	<p>Easy Installation Simple design, and can be installed within a few hours, which means a significant reduction in labour costs and downtime</p>
	<p>Rugged Design Can withstand even harsh conditions where other types of detection systems might be rendered inadequate.</p>
	<p>Certifications BSI tested, LPCB, UL, PED and UKCA-PED certified</p>

CONTROL PANEL

An In-Panel Fire Suppression System is a mechanical, pressurized system activated on the principle of pressure differential. By digitally monitoring these systems, one can ensure they are always ready to respond. In larger premises with scaled-up systems, it's even more essential to have the system in working condition.

Ceasefire's In-Panel Fire Suppression System comes equipped with a state-of-the-art Control Panel that monitors up to four-cylinder systems. Plus, the provision allows monitoring of the status of each of these four system valves and pressure switches.



Ceasefire's Control Panels come equipped with a relay output that enables users to install additional Hooters (sound alarms) and Lamp Flashers (visual indicators) on the Detection Line.

They can be installed near the system anywhere, depending on the requirements of the premise or the user.

PRE-ENGINEERING THE INNOVATION

At Ceasefire, we not only understand the paramount significance of safeguarding high-risk micro-environments but also the complexities involved in acquiring such specialised systems for your premises. This is why we innovated and brought for our customers the In-Panel Fire Suppression Systems in a Pre-Engineered version. These systems are meticulously designed to offer instant, off-the-shelf, ready-to-deploy fire safety solutions for high-risk enclosed spaces.

Ceasefire's Pre-engineered Fire Suppression Systems are designed as pre-configured and pre-packaged solutions, incorporating standardised system components in their quick-to-install and ready-to-use form.

These systems have been optimised to streamline your fire protection processes, ensuring that we have a system version available to suit your specific requirements.



THE PRE-ENGINEERED ADVANTAGE

The biggest advantage of the Ceasefire's Pre-Engineered Suppression Systems is that it makes the specialised engineered fire suppression systems easily available to one and all.

Designed to be compact, swift to set up, and tailored to provide fire protection in smaller enclosures, the pre-engineered version of the system makes it highly versatile to fireproof a wide variety of spaces such as electrical panels, server rack cabinets, engine compartments, CNC machines, wind turbines, and many more.

These pre-engineered systems consist of pre-fabricated components such as the pressurised heat sensing tube with a predefined length, pre-pressurised agent container, and a set number of pressure fittings.



Why Choose Pre-Engineered Systems?

Eases the process of purchase for the customer

The pre-engineered systems take away all the confusion involved in buying a specialised fire suppression system by making it easy for the customers to pick a system variant that is most suitable for them.



Saves time and effort

Buying a pre-engineered system that has clear specifications and pricing facilitates quick and seamless buying experience for customers by saving time and complexities involved in buying engineered systems.

Optimise your sales process

The pre-engineered range ensures a transparent and easy to comprehend pricing structure which aids in the clarity and predictability of transactions by cutting out many stages involved in the buying process otherwise.

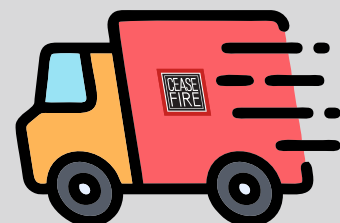


Simple and Quick Installation

The Ceasefire Pre-Engineered In-Panel Fire Suppression System eliminates the necessity for extensive infrastructure. The system can be installed with minimum tools and in a time efficient manner.

Simplifies shipping

These pre-packed and pre-configured systems come in customised box packing for ease of transit.



THE SYSTEM VARIANTS

Ceasefire's pre-engineered systems not only prioritise simplicity but also offer versatility through their pre-designed options. These configurations are readily available for customers to choose a variant that suits their specific needs.

PRE-ENGINEERED FLUOROKETONE (FK) VARIANTS



Name	Description	Product Code	Packaging Box Dimension
CQRS-FK-1kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-1Kg -Pre Eng System with Sensor Tube (6mm)-3 mtr and EOL Plug-1 No.	CF-000854A-K1	440 X 140 X 640 mm
CQRS-FK-1kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-1Kg -Pre Eng System with Sensor Tube (6mm)-4 mtr and EOL Plug-1 No.	CF-000854A-K2	
CQRS-FK-1kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-1Kg -Pre Eng System with Sensor Tube (6mm)-5 mtr and EOL Plug-1 No.	CF-000854A-K3	
CQRS-FK-2kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-2Kg -Pre Eng System with Sensor Tube (6mm)-3 mtr and EOL Plug-1 No.	CF-000792A-K1	
CQRS-FK-2kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-2Kg -Pre Eng System with Sensor Tube (6mm)-4 mtr and EOL Plug-1 No.	CF-000792A-K2	
CQRS-FK-2kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-2Kg -Pre Eng System with Sensor Tube (6mm)-5 mtr and EOL Plug-1 No.	CF-000792A-K3	

Name	Description	Product Code	Packaging Box Dimension
CQRS-FK-3kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-3Kg- Pre Eng System with Sensor Tube (6mm)-3 mtr and EOL Plug-1 No.	CF-000792B-K1	440 X 170 X 560 mm
CQRS-FK-3kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-3Kg- Pre Eng System with Sensor Tube (6mm)-4 mtr and EOL Plug-1 No.	CF-000792B-K2	
CQRS-FK-3kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-3Kg- Pre Eng System with Sensor Tube (6mm)-5 mtr and EOL Plug-1 No.	CF-000792B-K3	
CQRS-FK-4kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-4Kg- Pre Eng System with Sensor Tube (6mm)-3 mtr and EOL Plug-1 No.	CF-000792C-K1	
CQRS-FK-4kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-4Kg- Pre Eng System with Sensor Tube (6mm)-4 mtr and EOL Plug-1 No.	CF-000792C-K2	
CQRS-FK-4kg-Direct	Ceasefire Quick Response System (FK-5-1-12) Direct-4Kg- Pre Eng System with Sensor Tube (6mm)-5 mtr and EOL Plug-1 No.	CF-000792C-K3	



PRE-ENGINEERED FOAM (FLUORINE FREE) VARIANTS



Name	Description	Product Code	Packaging Box Dimension
CQRS-FF Foam-1ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 1Ltr-Pre Eng System with Sensor Tube (8mm)-3 mtr and EOL Adaptor (8mm)-1 No.	CF-001368-K1	440 X 140 X 640 mm
CQRS-FF Foam-1ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 1Ltr-Pre Eng System with Sensor Tube (8mm)-4 mtr and EOL Adaptor (8mm)-1 No.	CF-001368-K2	
CQRS-FF Foam-1ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 1Ltr-Pre Eng System with Sensor Tube (8mm)-5 mtr and EOL Adaptor (8mm)-1 No.	CF-001368-K3	
CQRS-FF Foam-3ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 3Ltr-Pre Eng System with Sensor Tube (8mm)-3 mtr and EOL Adaptor (8mm)-1 No.	CF-001383-K1	440 X 170 X 560 mm
CQRS-FF Foam-3ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 3Ltr-Pre Eng System with Sensor Tube(8mm)-4 mtr and EOL Adaptor (8mm)-1 No.	CF-001383-K2	
CQRS-FF Foam-3ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 3Ltr-Pre Eng System with Sensor Tube (8mm)-5 mtr and EOL Adaptor (8mm)-1 No.	CF-001383-K3	
CQRS-FF Foam-6ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 6Ltr-Pre Eng System with Sensor Tube (8mm)-3 mtr and EOL Adaptor (8mm)-1 No.	CF-001384-K1	440 X 190 X 820 mm
CQRS-FF Foam-6ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 6Ltr-Pre Eng System with Sensor Tube(8mm)-4 mtr and EOL Adaptor (8mm)-1 No.	CF-001384-K2	
CQRS-FF Foam-6ltr-Direct	Ceasefire Quick Response System (FF Foam) Direct (Single outlet With 8mm Fitting) – 6Ltr-Pre Eng System with Sensor Tube (8mm)-5 mtr and EOL Adaptor (8mm)-1 No.	CF-001384-K3	

PRE-ENGINEERED ABC POWDER (MAP 90) VARIANTS



Name	Description	Product Code	Packaging Box Dimension
CQRS-MAP90-1kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 1Kg-Pre Eng System with Sensor Tube (8mm)-3 mtr and EOL Adaptor (8mm)-1 No.	CF-001364-K1	440 X 140 X 640 mm
CQRS-MAP90-1kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 1Kg-Pre Eng System with Sensor Tube (8mm)-4 mtr and EOL Adaptor (8mm)-1 No.	CF-001364-K2	
CQRS-MAP90-1kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 1Kg-Pre Eng System with Sensor Tube (8mm)-5 mtr and EOL Adaptor (8mm)-1 No.	CF-001364-K3	
CQRS-MAP90-2kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 2Kg-Pre Eng System with Sensor Tube (8mm)-3 mtr and EOL Adaptor (8mm)-1 No.	CF-001365-K1	
CQRS-MAP90-2kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 2Kg-Pre Eng System with Sensor Tube (8mm)-4 mtr and EOL Adaptor (8mm)-1 No.	CF-001365-K2	
CQRS-MAP90-2kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 2Kg-Pre Eng System with Sensor Tube (8mm)-5 mtr and EOL Adaptor (8mm)-1 No.	CF-001365-K3	
CQRS-MAP90-4kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 4Kg-Pre Eng System with Sensor Tube (8mm)-3 mtr and EOL Adaptor (8mm)-1 No.	CF-001511-K1	440 X 170 X 560 mm
CQRS-MAP90-4kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 4Kg-Pre Eng System with Sensor Tube (8mm)-4 mtr and EOL Adaptor (8mm)-1 No.	CF-001511-K2	
CQRS-MAP90-4kg-Direct	Ceasefire Quick Response System (MAP90) Direct (Single outlet With 8mm Fitting) – 4Kg-Pre Eng System with Sensor Tube (8mm)-5 mtr and EOL Adaptor (8mm)-1 No.	CF-001511-K3	

PRE-ENGINEERED CO₂ VARIANTS



Name	Description	Product Code	Packaging Box Dimension
CQRS-CO₂-2kg-Direct	Ceasefire Quick Response System Co2 Direct - 2Kg- Pre Eng System with Sensor Tube (6mm)- 3 mtr and EOL Plug-1 No.	CF-000079-K1	440 X 140 X 640 mm
CQRS-CO₂-2kg-Direct	Ceasefire Quick Response System Co2 Direct - 2Kg- Pre Eng System with Sensor Tube (6mm)- 4 mtr and EOL Plug-1 No.	CF-000079-K2	
CQRS-CO₂-2kg-Direct	Ceasefire Quick Response System Co2 Direct - 2Kg- Pre Eng System with Sensor Tube (6mm)- 5 mtr and EOL Plug-1 No.	CF-000079-K3	
CQRS-CO₂-5kg-Direct	Ceasefire Quick Response System Co2 Direct - 5Kg- Pre Eng System with Sensor Tube (6mm)- 3 mtr and EOL Plug-1 No.	CF-001288-K1	440 X 190 X 820 mm
CQRS-CO₂-5kg-Direct	Ceasefire Quick Response System Co2 Direct - 5Kg- Pre Eng System with Sensor Tube (6mm)- 4 mtr and EOL Plug-1 No.	CF-001288-K2	
CQRS-CO₂-5kg-Direct	Ceasefire Quick Response System Co2 Direct - 5Kg- Pre Eng System with Sensor Tube (6mm)- 5 mtr and EOL Plug-1 No.	CF-001288-K3	

A hand is holding a small, red fire extinguisher. The extinguisher has a silver nozzle and a pressure gauge. A black band around the middle of the extinguisher has a white label with the words "EASE" and "RE" visible. The background is an orange electrical panel with several terminals and wires. The overall scene is a close-up shot.

HELLO, MINI!

The Biggest, Smallest Firefighter.

2.) CEASEFIRE MINI

Introducing the Ceasefire Mini, the biggest, smallest suppression system in town; and proof that some of the best things do come in small packages.

The Mini is a state-of-the-art micro-environment suppression system designed by Ceasefire. The size of your palm, it sits snugly inside small enclosed spaces that are vulnerable to fire. When the temperature of the micro-environment exceeds a preset limit, the Mini swings into action and automatically extinguishes the fire. Place it inside your server. Pop it in the fuse box. The Mini fits anywhere, and protects everywhere!

EVOLVED TO PROTECT

At Ceasefire, our products have evolved to take the fight to the fire. First, came simple home extinguishers. Then, complete flooding systems followed by advanced suppression systems. And now, the Mini, the smallest firefighter that takes on a fire the moments it starts.

Tested by
bsi.



TYPES OF CEASEFIRE MINI

Ceasefire has designed a Mini to protect practically every kind of micro-environment, including those that cannot be reached by humans.

The Mini – Adaptive System is an indirect suppression system designed for those micro-environments which are too small to even accommodate a Mini, let alone other firefighting systems. In this case, the Mini container is installed outside, with its heat-sensitive glass bulb inside the micro-environment.



Adaptive












The Mini – Intuitive System is a direct suppression system which protects the micro-environment from inside. Place it inside or attach it to the inner wall of the micro-environment, and the Mini is ready to protect.



Intuitive



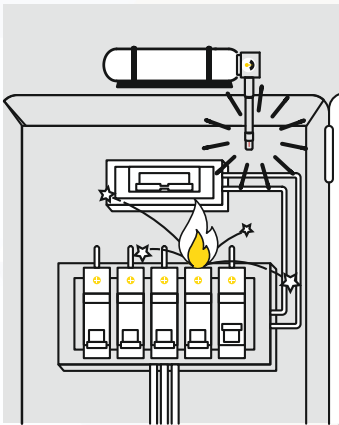
SYSTEM FEATURES

	<p>Ease of Use: Being automatic, the Mini requires no prompt to start firefighting.</p>
	<p>Fits Anywhere: The Mini can easily fit into the spots that are most prone to fire.</p>
	<p>Electronics-friendly: The Mini is filled with clean agent Fluoroketone (FK) that cause no damage to your electronics.</p>
	<p>Maintenance-free: The Mini comes with 5 year warranty and the assurance of no leakage.</p>
	<p>Easy to Install with 2 Mounts: The Standard and Busbar mounts make installation a breeze.</p>
	<p>Self-actuation: Since the Mini is self-actuated, it spots the fire and protects even when no one is around.</p>
	<p>No Power Supply Required: The Mini uses a mechanical release mechanism to start firefighting.</p>
<p>A,B,C, </p>	<p>Works on All Classes of Fire: The Mini can be used on any kind of fire, making it a truly versatile firefighter.</p>
	<p>Different temperature settings: Mini variants are available for 1 heat thresholds : 57°C.</p>
	<p>Protects all Micro-environments: Available as an Intuitive or Adaptive System, the Mini protects everywhere.</p>
	<p>Heat-sensitive Glass Bulb: The Mini's glass bulb acts as a heat sensor that detects a rise in surrounding temperature.</p>

TECHNOLOGY MEETS DESIGN IN THE HANDY CEASEFIRE MINI.

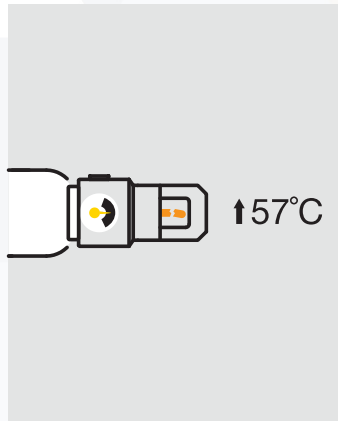
Built to protect micro-environments, the Ceasefire Mini automatically kicks into action in a fire situation.

a. ADAPTIVE SYSTEM



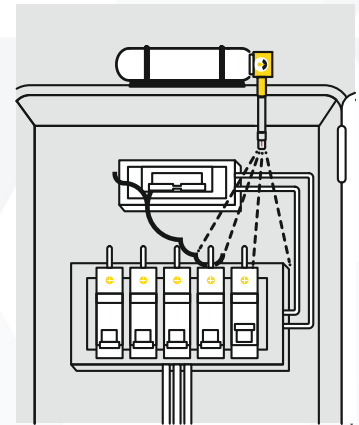
Stage 1:

A fire sparked by a short circuit causes the pressure inside the Mini's glass bulb to increase.



Stage 2:

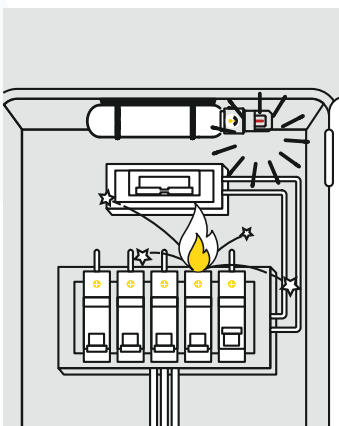
The very second the temperature rises beyond a point, the bulb breaks and activates the system.



Stage 3:

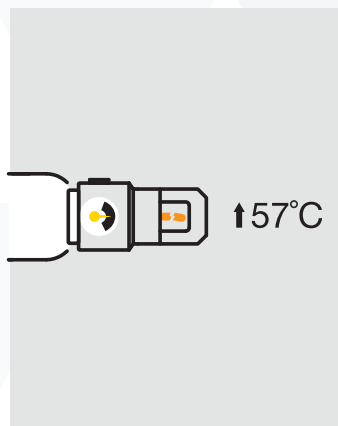
Instantly, the extinguishing agent is dispersed, killing the fire in its early stages.

b. INTUITIVE SYSTEM



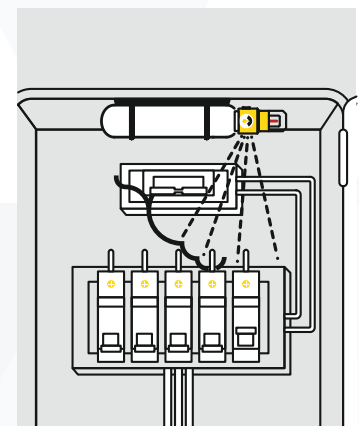
Stage 1:

A fire sparked by a short circuit causes the pressure inside the Mini's glass bulb to increase.



Stage 2:

The very second the temperature rises beyond a point, the bulb breaks and activates the system.



Stage 3:

Instantly, the extinguishing agent is dispersed, killing the fire in its early stages.



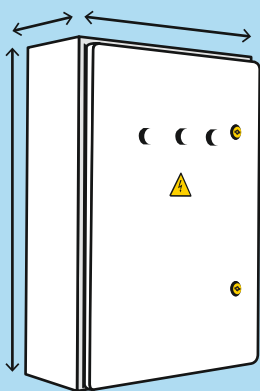
The green Ceasefire Mini is available in HFC227ea & Fluoroketone (FK).

Fluoroketone is a clean agent that causes no collateral damage to your electronics or the Earth, making the Mini absolutely safe.

MINI SUPPRESSION SYSTEM. ZERO HASSLES.

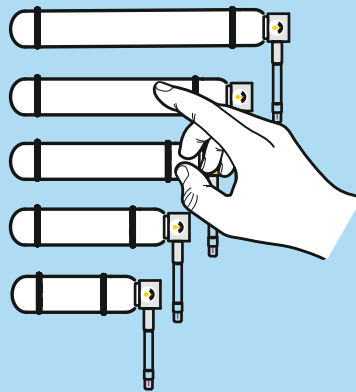
Fitting the Mini is as easy as 1-2-3. It's the only suppression system in the market which can be installed without any help or technical support.

INSTALLING THE MINI - ADAPTIVE SYSTEM



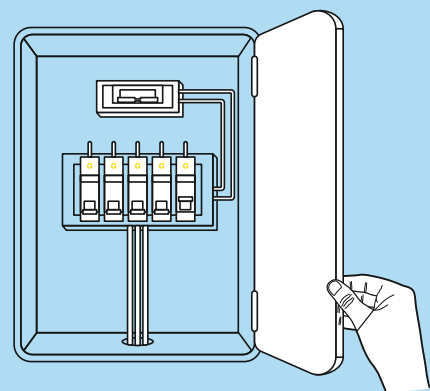
Stage 1:

Measure the approximate volume of the enclosure you want to protect.



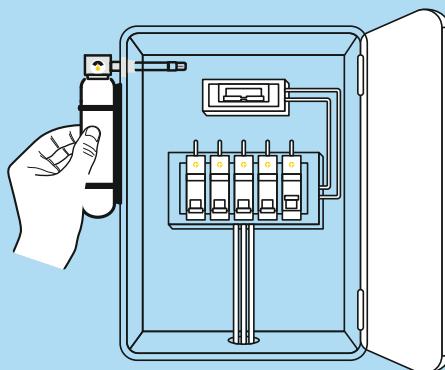
Stage 2:

Choose the right variant of the Mini - Adaptive System.



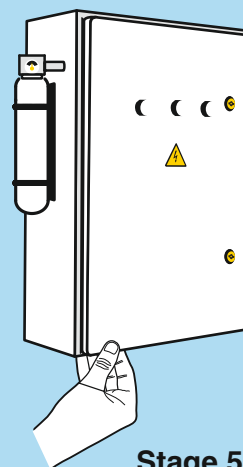
Stage 3:

Drill a hole in the wall of your electrical cabinet.



Stage 4:

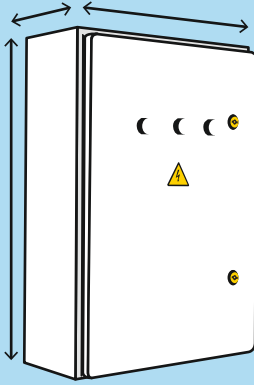
Place the Mini on the outside such that the barrel passes through the hole and the heat-sensing bulb is inside the cabinet.



Stage 5:

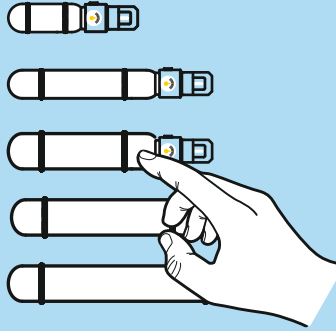
Close the enclosure.

INSTALLING THE MINI - INTUITIVE SYSTEM



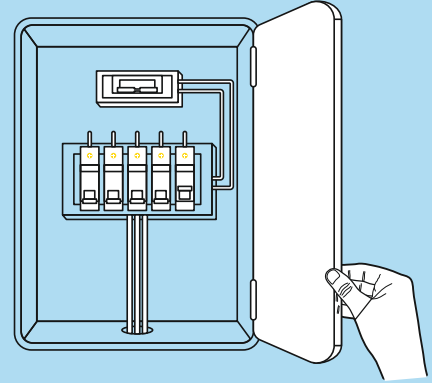
Stage 1:

Measure the approximate volume of the enclosure you want to protect.



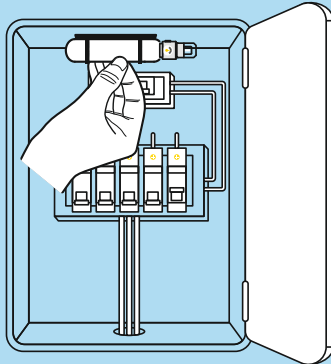
Stage 2:

Choose the right variant of the Mini - Intuitive System.



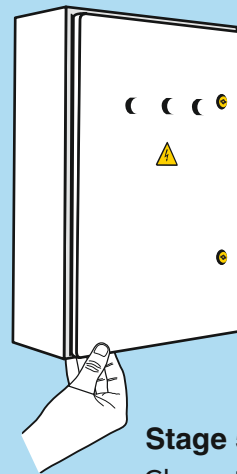
Stage 3:

Open your electrical cabinet, AHU or machinery.



Stage 4:

Place the Mini inside, vertically or horizontally. In case of large enclosures, you could screw its bracket to the wall inside and place the Mini on it.



Stage 5:

Close the enclosure.

APPLICATION AREAS

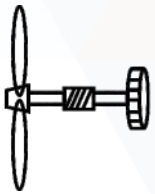
WIND TURBINES

The Fire Risk

Discover the future of wind turbine safety. Wind turbines are advanced systems that harness natural wind energy, converting it into vital power. However, their significant capital investment demands prolonged functionality for economic viability. Fire emerges as a prime cause of downtime, fuelled by moving turbine parts and lightning strikes. Once ignited, the chances of dousing the blaze are low due to the extreme height & the remote locations they are present in.

Therefore, a conventional suppression system might not help when it comes to suppressing the fire risk that these remote machineries carry.

Common Causes Of Fire In Wind Turbines



Mechanical Breaking System Fault



Fire Debris from Forest or Bush Fires



Electrical Overload & Overheating



Failure of SCADA System



Generator Malfunction



Lightening Strikes



Electrical Equipment Failure



Mechanical Malfunctions



Arching in Transformer

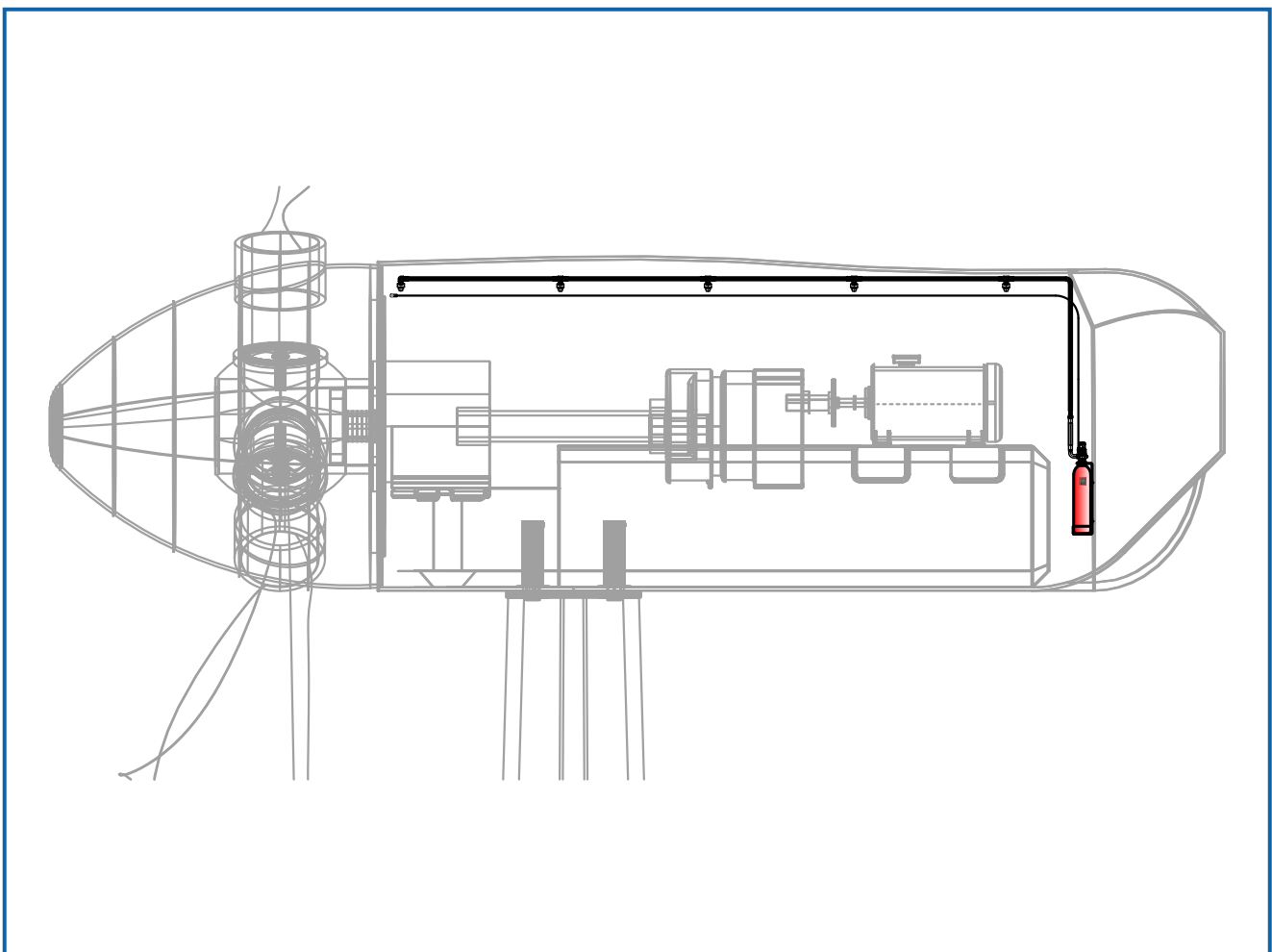


Inadequate Lubrication



Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System	Low Pressure	Fluoroketone (FK)
	High Pressure	CO ₂
In-panel Tube Based Indirect System	Low Pressure	Fluoroketone (FK)
	High Pressure	CO ₂



FIRE FACTS

Did You Know?

“ Worldwide, there have been hundreds of fire accidents in wind turbines. Due to highly flammable materials within the nacelle and other factors, fire accounts for a "substantial fraction of accidents" in any year - about 10 to 30%.

- Uadiale et al. (2014)

“ In 90 percent of the wind turbine fire cases, the fire leads to substantial downtime or a total loss of the turbine.

- Imperial College, London and SP Technical Research Institute, Sweden

“ Top causes of accidents in wind turbines - Blade failure (19%) Fire (15%) Structural failure (9.7%).

- Caithness Windfarm Information Forum

“ There have been 117 fires at wind turbines in the UK since 2010. Of these, 102 were minor fires that were quickly extinguished, while 15 were more serious fires that caused significant damage.

- UK Fire Brigades Union (FBU)

“ Electrical failure is the most common cause of fires in wind turbines in the UK, accounting for around 50% of all fires.

- UK's Renewable Energy Association (REA) 2021/22

ELECTRICAL PANELS

The Fire Risk

Short circuit in electrical panels is often the leading cause of fatal fires in buildings. Safeguarding these highly vulnerable risk points mean safeguarding the entire premises. Ceasefire's specialised fire systems are designed considering how dangerous it gets to arrest fires in these electrically charged spaces and how manual firefighting is often never an option when it comes to dousing fire in electrical panels.

Common Causes Of Fire In Electrical Panels



Electrical Overloads



Over Currents



Wrong Selection of
Cables



Harmonics



Mismatch of Fittings
Ratings



Earth Fault



Improper or Poor
Maintenance



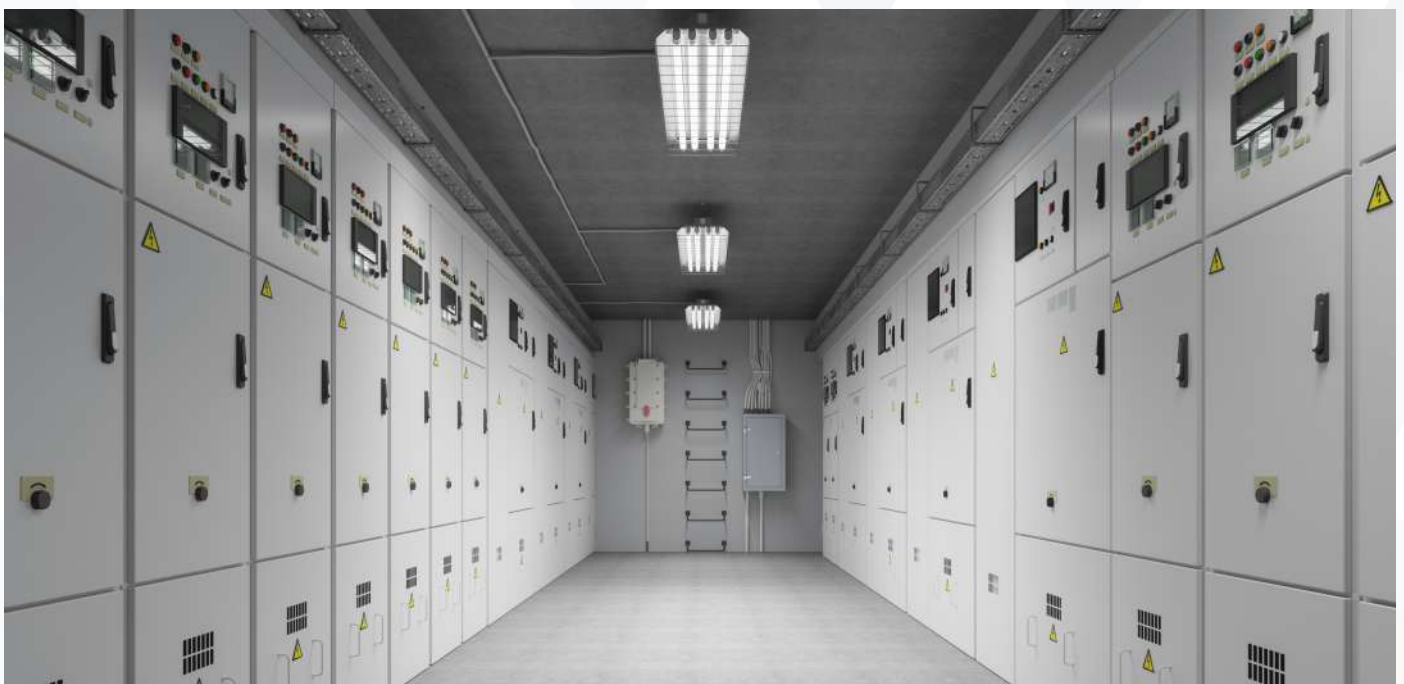
Electric Arcs and Loose
Connections



Outlived or Damaged
Equipment

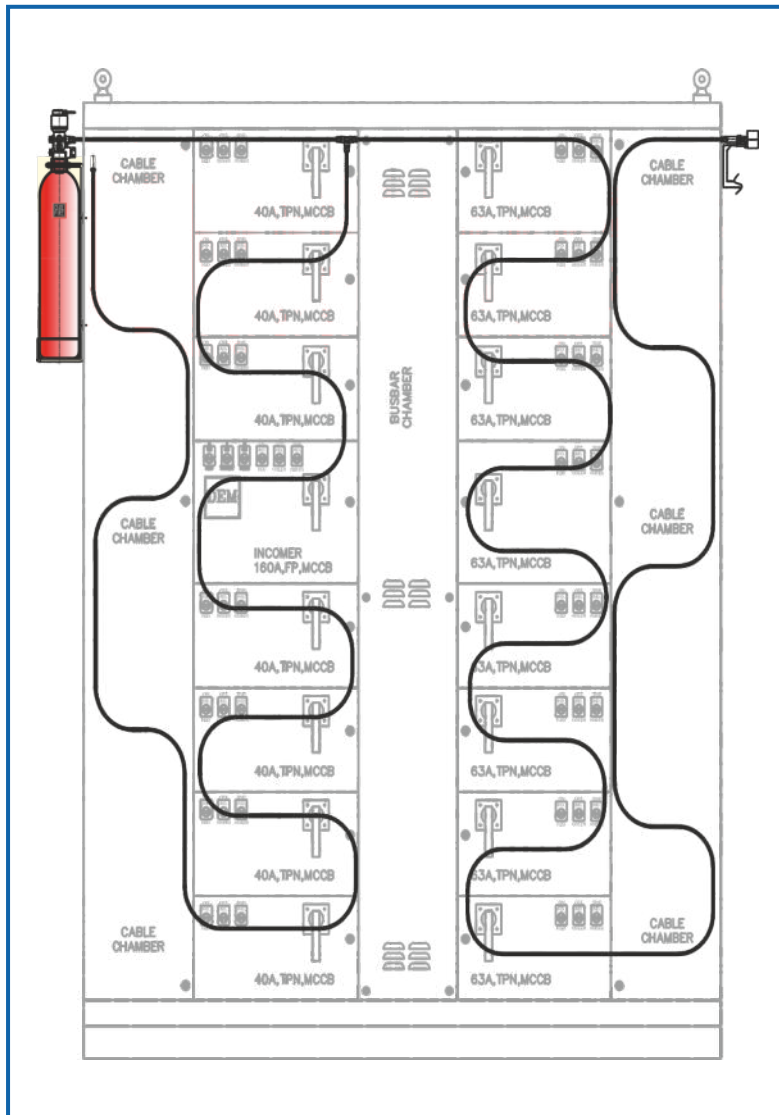


Over Voltages and
Arcing



Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System (For electrical panel with multiple compartments)	Low Pressure	Fluoroketone (FK)
	High Pressure	CO ₂
In-panel Tube Based Indirect System (For electrical panel with limited compartments)	Low Pressure	Fluoroketone (FK)
	High Pressure	CO ₂
Ceasefire Mini	Adaptive / Intuitive	Fluoroketone (FK)



FIRE FACTS

Did You Know?

“There were an estimated 1,000 fires involving electrical panels in the UK. These fires caused an estimated £500 million in damage to property and business interruption.

- Fire Statistics England 2021/22

“Electrical faults are the leading cause of fires, accounting for 27% of all fires.

- UK Fire and Rescue Service 2021/22

“Electrical panel fires account for around 10% of all fires in non-domestic premises in the UK.

- UK's National Fire Chiefs Council 2022

“The Electricity at Work Regulations 1989 require electrical panels to be installed, maintained, and tested by qualified electricians. Electrical panels must also be regularly inspected to identify any potential fire hazards.

NETWORKING RACKS

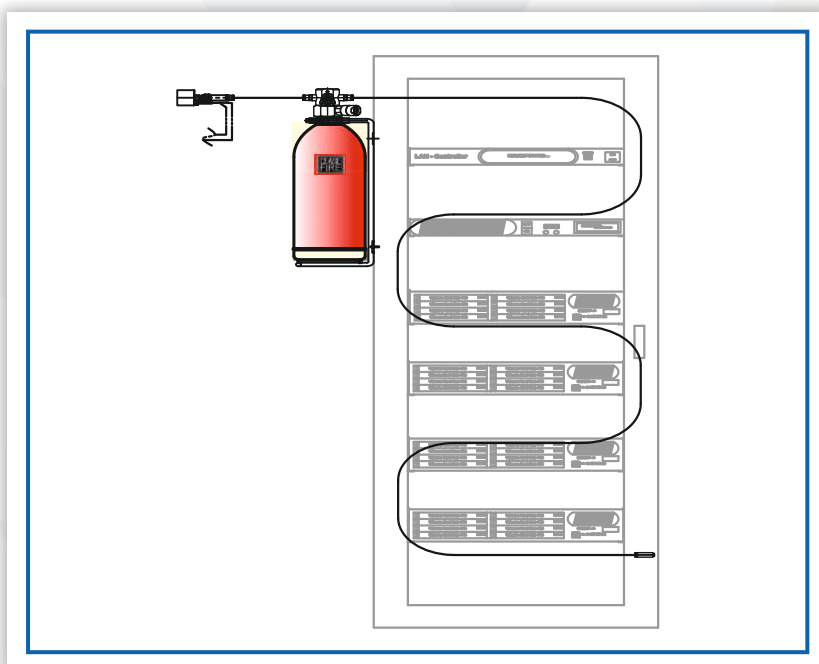
The Fire Risk

Generally used for the storage of routers, patch panels, switches and a wide variety of networking equipment and networking accessories, networking racks do not generate the same amount of heat as that housed inside a server rack. But poor ventilation, electrical issues, improper installation, or overheating may lead to a fire situation, causing business downtime and loss of data.

This makes it essential to install an In-Panel Tube Based System (CQRS) or Ceasefire Mini in server rooms to detect and suppress fires automatically.

Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System	Low Pressure	Fluoroketone (FK)
In-panel Tube Based Indirect System	Low Pressure	
Ceasefire Mini	Adaptive / Intuitive	



"In 2021, there were over 1,000 data centre fires, with an average cost of \$1 million each. About 20% of these fires were caused by networking racks."

- UK's Health and Safety Executive (HSE)

WAVE SOLDER MACHINES

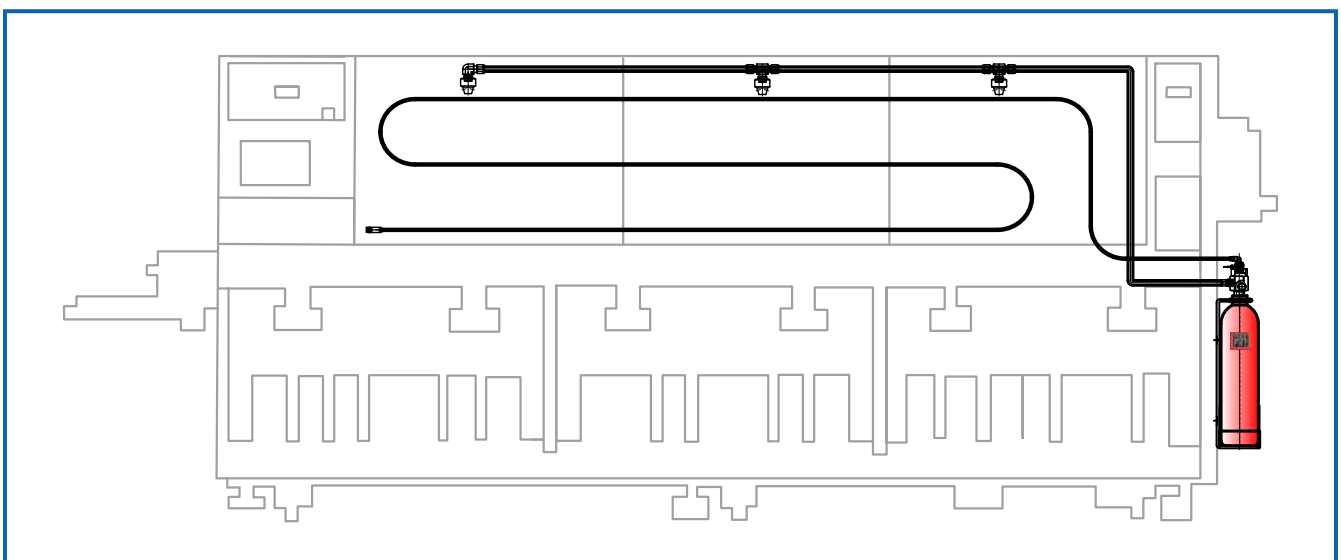
The Fire Risk

The chance of a fire occurring in a wave solder machine can be relatively high due to the presence of flammable materials such as solder and flux, as well as the high temperatures generated during operation. Wave solder machines utilise molten metal to solder components onto printed circuit boards, which can generate a significant amount of heat and pose a risk of ignition if not properly maintained.

Installing fire prevention measures like an automatic fire suppression system is recommended to ensure fire safety of the machine.

Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Indirect System	Low Pressure	Fluoroketone (FK)
	High Pressure	CO ₂



The Regulatory Reform (Fire Safety) Order 2005 requires manufacturing businesses to take reasonable steps to reduce the risk of fire and to ensure that people can safely escape in the event of a fire.

SERVER RACKS

The Fire Risk

At Ceasefire, we understand the critical role that server racks play in storing invaluable business data and facilitating seamless operations within your organisation. However, it's important to acknowledge the inherent risks associated with server racks, particularly when it comes to fire hazards.

One of the key challenges in mitigating these risks is that server rooms often operate without continuous human presence, which means that potential fires could go undetected until it's too late.

Common Causes Of Fire In Server Racks



Technical Defect



Subflooring Wiring Problems



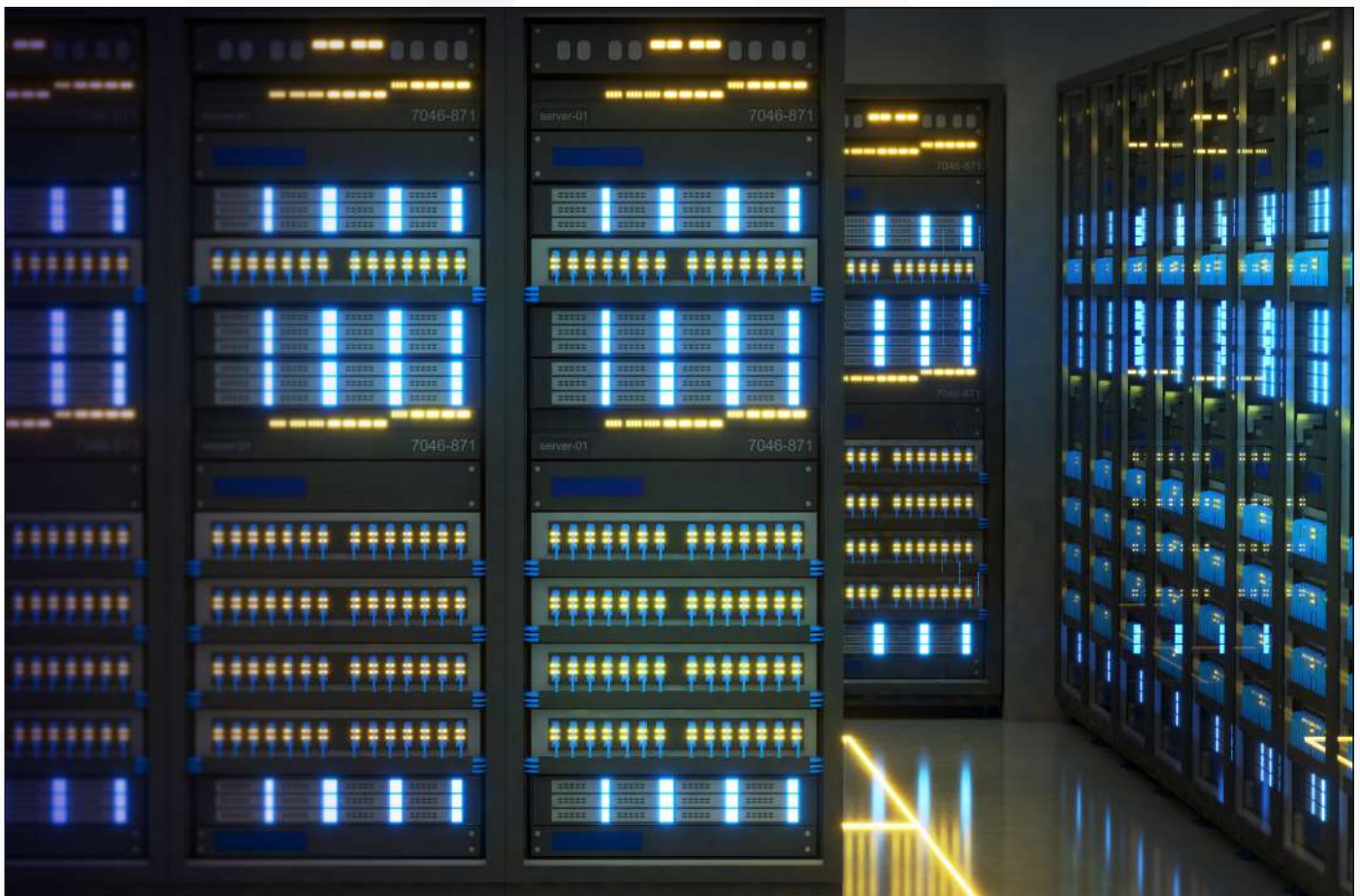
Overheating



Insufficient Cooling of Server Racks

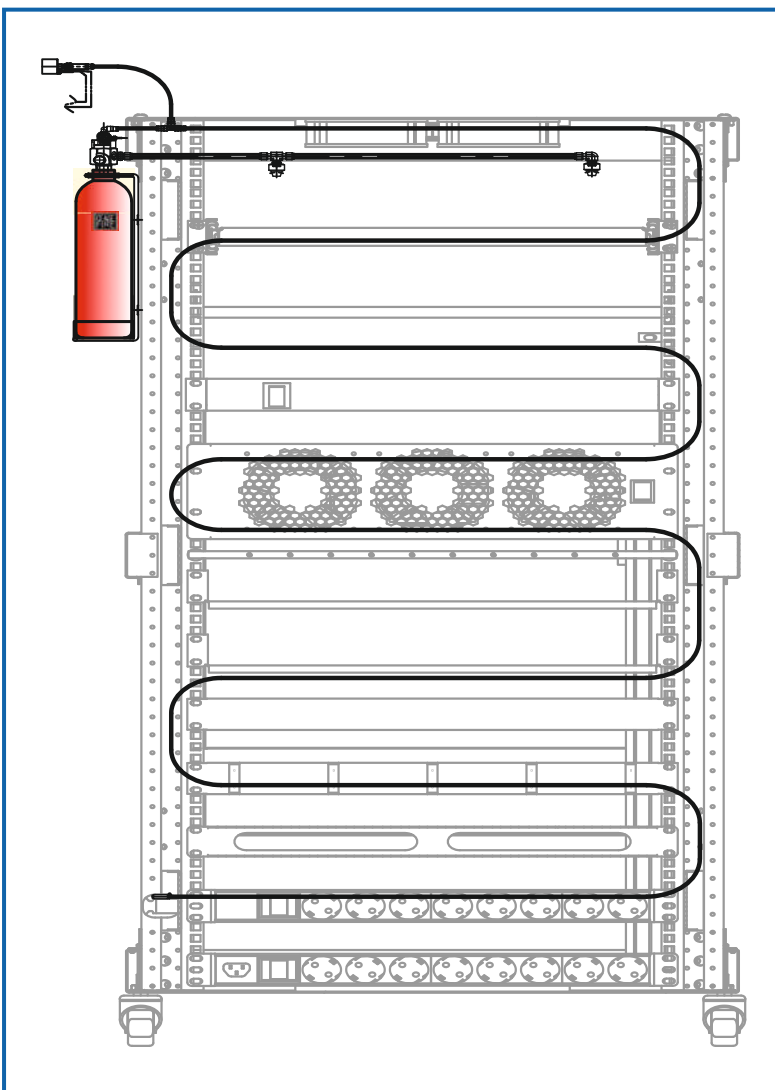


Electrical Equipment Failure



Ceasefire Recommends

System Variants		Agents	
(For server racks up to 4U)	In-panel Tube Based Direct System	Low Pressure	Fluoroketone (FK)
		High Pressure	CO ₂
	In-panel Tube Based Indirect System	High Pressure	CO ₂
(For server racks above 4U)	In-panel Tube Based Direct System	High Pressure	CO ₂
	In-panel Tube Based Indirect System	Low Pressure	Fluoroketone (FK)
		High Pressure	CO ₂
Ceasefire Mini		Adaptive / Intuitive	Fluoroketone (FK)



FIRE FACTS

Did You Know?

“The total cost of fires in server rooms in the UK in 2021/22 was estimated to be £500 million. This includes the cost of damage to property, the cost of data loss, and the cost of business interruption.

- UK's National Fire Chiefs Council (NFCC)

“There were an estimated 1,000 fires in server rooms in the UK in 2021/22. This is an increase of 20% from the previous year.

- UK Fire Protection Association

“Electrical failure is the most common cause of fires in server racks accounting for about 60% of all fires.

“Server Rack fires account for an average downtime of 17.5 hours due to fire incidents.

- Uptime Institute 2022

CNC MACHINES

The Fire Risk

From the exquisite wonders of technology, CNC Machines bring to the fore an effortless way of performing complex day to day operations at manufacturing units. While these highly advanced machines render numerous benefits to the industry, they also possess a significantly high risk of fire.

CNC machines carry out repetitive robotic movements and use flammable oils, lubricants, and other metalworking fluids at high speeds and temperatures, this creates extreme levels of friction and heat that can eventually lead to a flash fire. Since these machines operate in automatic mode, they do not require human intervention 24 hours a day, which makes the situation even more alarming.

Common Causes Of Fire In CNC Machines



Unmanned Remotely
Managed Operations



Presence of
Lubricants



Oil Based Coolants



Specialised Machining
Metals

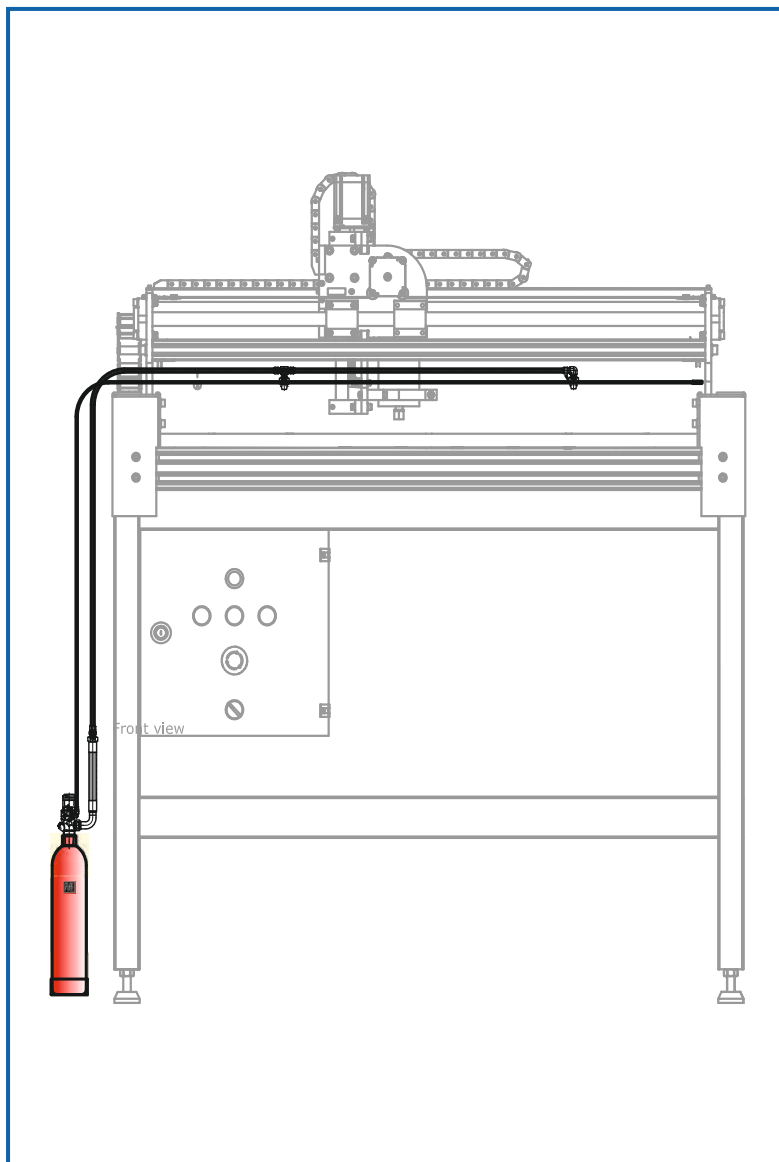


High Speed
Operations



Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System	Low Pressure	Fluoroketone (FK)
	Low Pressure	Foam (Fluorine Free)
	High Pressure	CO ₂
In-panel Tube Based Indirect System	Low Pressure	Fluoroketone (FK)
	Low Pressure	Foam (Fluorine Free)
	High Pressure	CO ₂
Ceasefire Mini	Adaptive / Intuitive	Fluoroketone (FK)



FIRE FACTS

Did You Know?

“ There were 1,407 fires involving CNC machines in the UK between 2010 and 2021. This represents an average of 128 fires per year.

- Home Office Fire Statistics

“ Electrical failure is the most common cause of fires involving CNC machines in the UK, accounting for 45% of all fires.

- UK's Health and Safety Executive (HSE)

“ The average cost of a CNC machine fire is £100,000.

- National Fire Chiefs Council

“ There have been 3 fatalities as a result of CNC machine fires in the UK since 2010.

- Health and Safety Executive 2022

“ Fires involving CNC machines caused an estimated £50 million in damage in the UK.

- UK's Health and Safety Executive 2022

DUST COLLECTION MACHINES

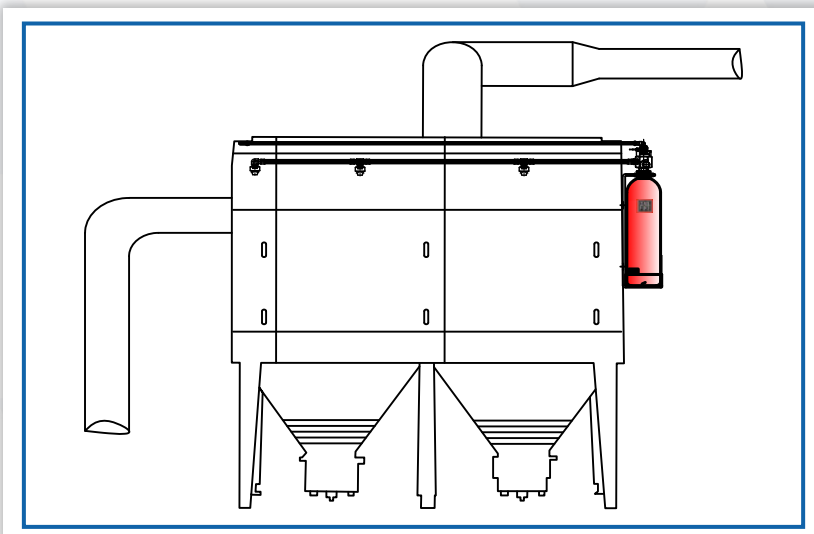
The Fire Risk

From metalworking and woodworking to food processing, dust collectors constantly pull combustible dust off the floor. This dust, along with the filter material themselves, is a continuous source of fuel for the fire triangle. This means there is a constant source of replenished oxygen circulating through the dust collector. In metal working processes, such as welding, grinding, or cutting, sparks can get swept up into the dust collector and ask as fuel to ignite a fire. Friction from processes can build up heat, which could build up enough to reach the flashpoint of the fuel within the collector.

With a Tube based suppression system installed inside the Dust Collector Machine, the system will release a suppression agent at the source of the fire, before you realise a fire has started.

Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Indirect System	Low Pressure	Foam (Fluorine Free)
	Low Pressure	ABC Powder MAP 90
	High Pressure	CO ₂



According to the National Fire Protection Association (NFPA), there were an estimated 1,380 fires in dust collection systems and equipment between 2010 and 2014 in the United States.

INJECTION MOULDING MACHINES

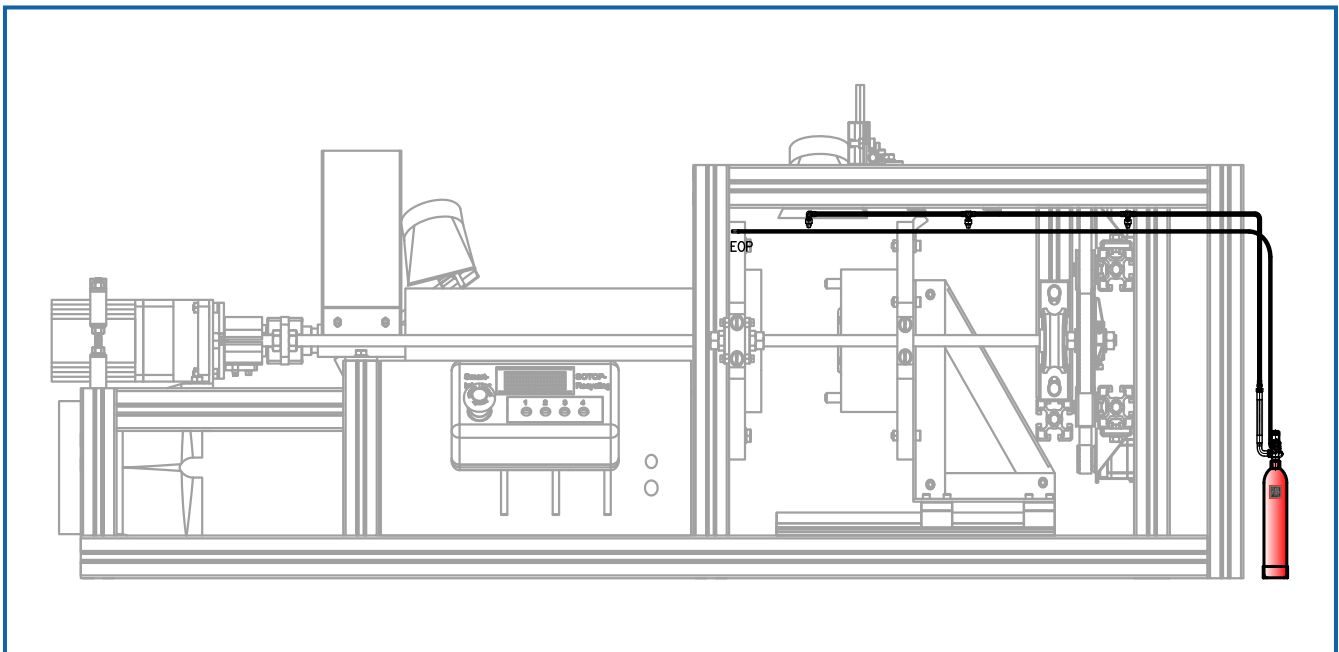
The Fire Risk

There are many reasons that can ignite a fire in the injection moulding machine including electrical faults, overheating due to blocked ventilation or insufficient cooling, and ignition of residual plastic or other materials inside the machine.

Since these machines are working at high pressure, high speed, and high temperature, it is essential to ensure that the machine is used in a properly ventilated area.

Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Indirect System	Low Pressure	Foam (Fluorine Free)
	High Pressure	CO ₂



Overheating is responsible for about 70% of all injection moulding machine fires.

- NFPA

HEAVY & LIGHT VEHICLE ENGINES

The Fire Risk

Vehicle fires are not new to us. We've witnessed them every now & then. While these vehicle engines convert fuel into motion and make our lives & commute easy, they also possess a major threat of catching fire. With the presence of a lot of frictional components, flammable liquids and complex electric wiring, fire is one of the most common hazards in vehicle engines.

With engines being located mostly outside the passenger area, detection of fire becomes even more critical and so does the suppression. A fire prevention system that can automatically detect any signs of fire & mitigate the risk in such small enclosed spaces is what these engines require.

Common Causes Of Fire In Vehicle Engines



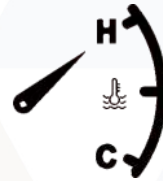
Electrical Malfunction



Engine Failure



Low Engine Oil



Overheating



Wear and Tear



FIRE FACTS

Did You Know?

“ There were 18,358 fires involving vehicle engines in the UK between 2010 and 2021. This represents an average of 1,669 fires per year.

- Home Office Fire Statistics

“ The most common cause of vehicle engine fires is electrical failure (35%).

- Association of British Insurers (ABI), Vehicle Fire Statistics 2021/22

“ The Road Vehicles (Fire Protection) Regulations 1989 require vehicle manufacturers to install fire prevention systems in new vehicles, such as fire extinguishers and fire alarms.

“ The average cost of a vehicle engine fire is £10,000.

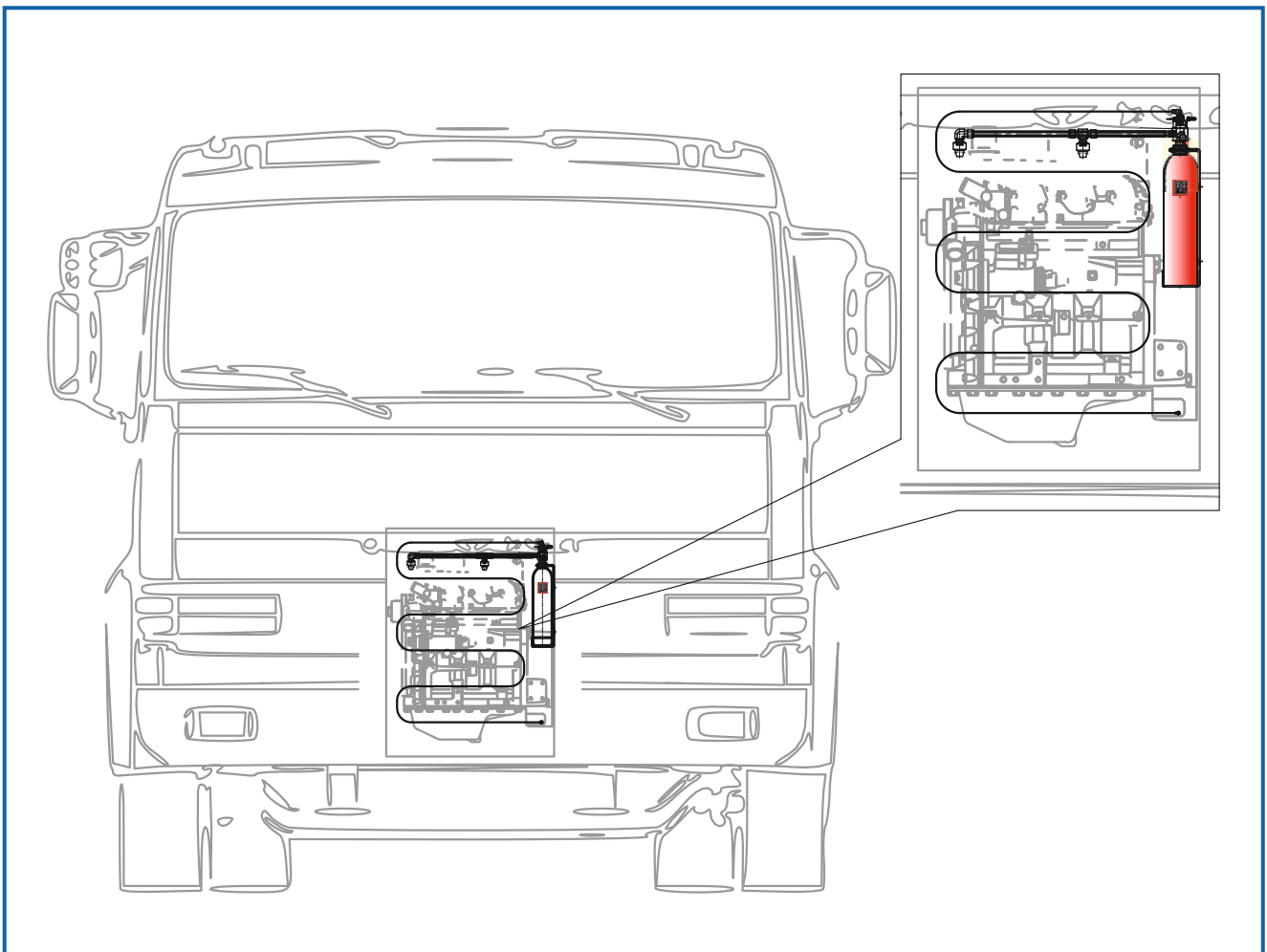
- National Fire Chiefs Council

“ There have been 15 fatalities as a result of vehicle engine fires in the UK since 2010.

- Health and Safety Executive

Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System	Low Pressure	ABC Powder MAP 90
In-panel Tube Based Indirect System	Low Pressure	Foam (Fluorine Free)
	Low Pressure	ABC Powder MAP 90



GENSETS

The Fire Risk

Generators convert mechanical or chemical energy into electricity by capturing the power of motion. With high speed moving engine parts combined with fuel, alternators, wiring and exhaust system there is an ever-present risk of overheating leading to fires. The very design of the canopy of these modern-day generators makes detection of fire an even bigger challenge as the canopy completely keeps the generator enclosed and away from our visual sight.

This is the reason generators need an exclusive fire suppression system that is one, automatic in nature and two, is designed exclusively to address the unique risk of generator fires.

Common Causes Of Fire In Gensets



Technical Defect



Operator Error



Short circuit in
electrical wirings



Machine
Malfunctioning

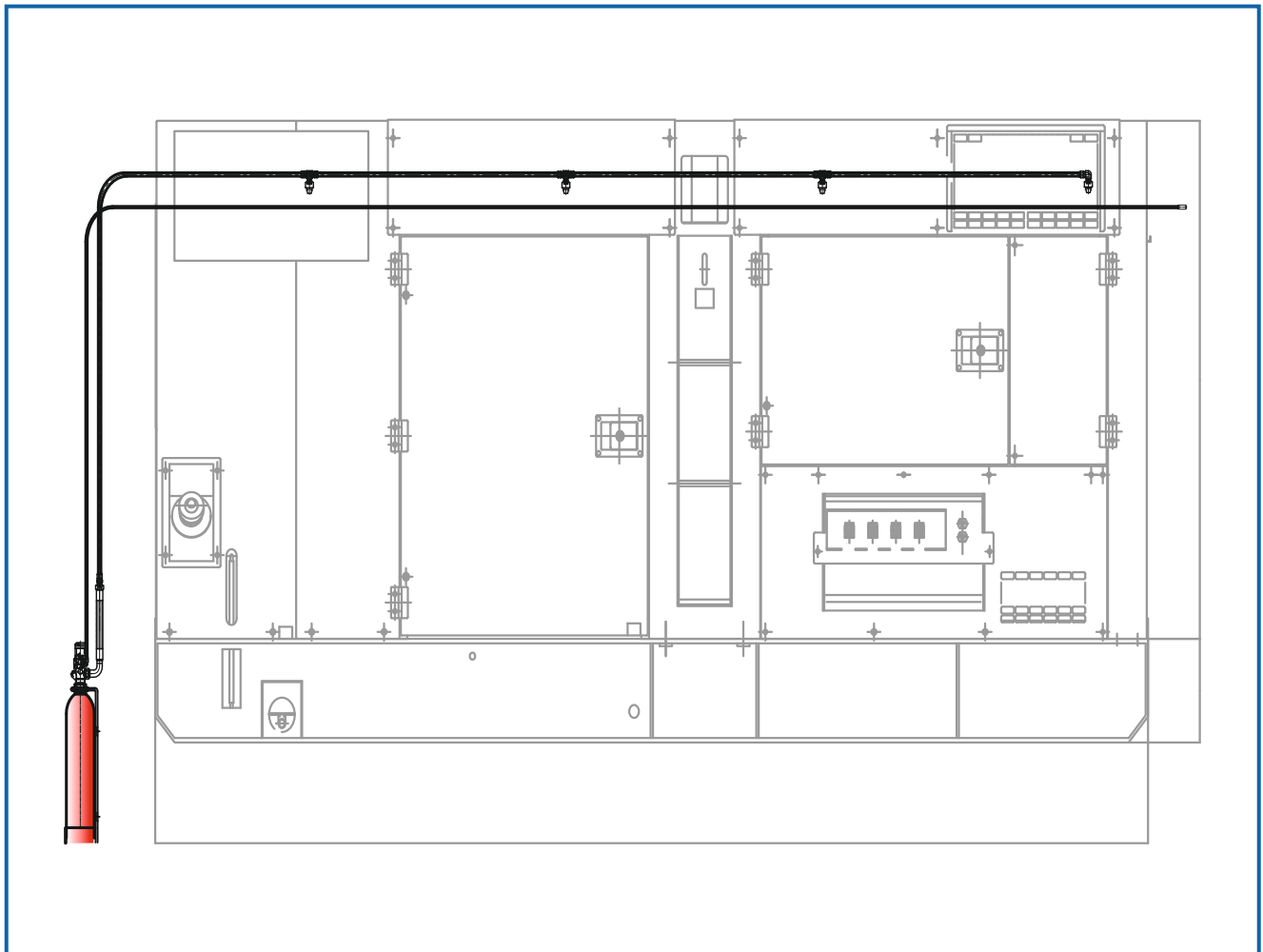


Overheating due to
broken components



Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System	Low Pressure	ABC Powder MAP 90
In-panel Tube Based Indirect System	Low Pressure	Foam (Fluorine Free)
	Low Pressure	ABC Powder MAP 90
	Low Pressure	Fluoroketone (FK)
	High Pressure	CO ₂



FIRE FACTS

Did You Know?

“Overloading is the most common cause of generator fires. (40%)

- National Fire Protection Association 2023

“The total cost of generator fires in the UK in 2021/22 was estimated to be £500 million.

- Association of British Insurers (ABI), Nov 2022

“Average cost of a generator fire is £100,000.

- National Fire Chiefs Council (NFCC)

“The number of generator fires in the UK has increased by 10% in 2021/22 compared to the previous year.

- Association of British Insurers (ABI)

FUME CABINETS

The Fire Risk

Fume cabinets play a crucial role in the functioning of laboratories, shielding researchers from unsafe fumes and risky substances. While their main purpose is to provide a shield against harmful elements, they paradoxically possess a susceptibility to catching fire.

The primary factor is the accumulation of flammable chemicals and vapours within them. When subjected to heat, sparks, or other ignition sources, these concentrations can swiftly combust, resulting in a fire outbreak. Moreover, fires that initiate externally to the cabinet, perhaps due to a nearby chemical spill or explosion, can also contribute to fires in fume cabinets.

Common Causes Of Fire In Fume Cabinets



Chemical Spills and Leaks



Electrical Malfunctions



Overloading Cabinets



Accumulation of Flammable Substances

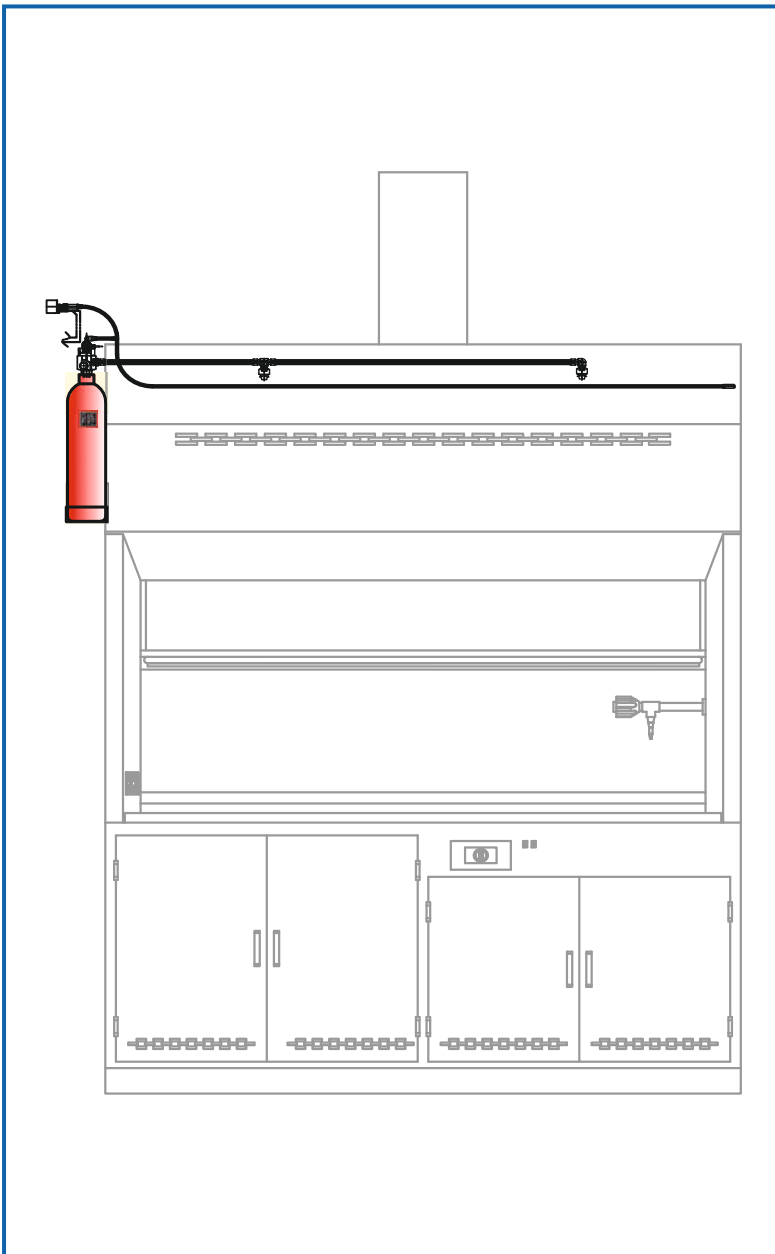


Blocked Airflow



Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System	Low Pressure	ABC Powder MAP 90
In-panel Tube Based Indirect System	Low Pressure	Fluoroketone (FK)
	High Pressure	CO ₂



FIRE FACTS

Did You Know?

“Data losses in storage devices used in the laboratories due to fires in a fume cabinet can be significant, with some estimates putting the cost at \$1,000 per hour.

- International Association Of Fire Chiefs (IAFC)

“There have been 117 fires at fume cabinets in the UK since 2010. Of these, 102 were minor fires, while 15 were serious fires that caused significant damage.

- UK Fire Brigades Union (FBU)

“The average cost of a fume cabinet fire is £100,000.

- National Fire Chiefs Council

“The most common cause of fires at fume cabinets is electrical failure. This can be caused by a variety of factors, including faulty wiring, short circuits, and overheating.

- National Fire Chiefs Council (NFCC)

TRANSFORMERS

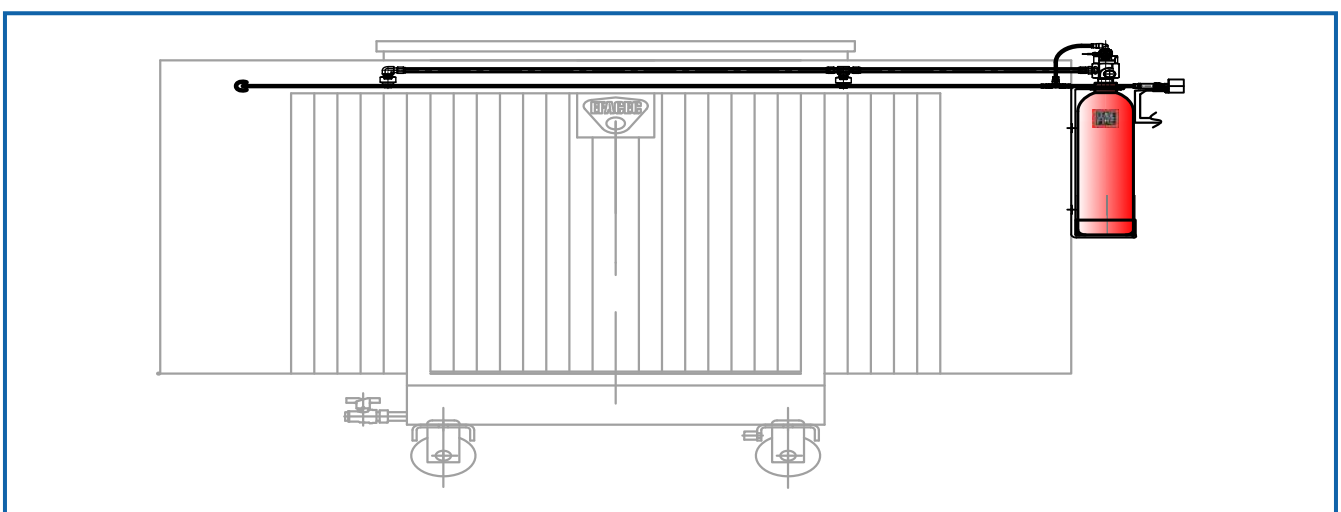
The Fire Risk

Transformers are electrical devices that are designed to transfer energy from one circuit to another through electromagnetic induction. However, they generate heat during operation, which can cause insulation materials to degrade over time, leading to a breakdown of the transformer and the possibility of fire. They are also vulnerable to external factors such as lightning strikes, power surges, and overloading, which can increase the risk of fire.

Environmental conditions, such as high temperatures, moisture, and corrosive substances, can also affect transformer performance and increase the likelihood of fire.

Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System	Low Pressure	ABC Powder MAP 90
In-panel Tube Based Indirect System	Low Pressure	Fluoroketone (FK)
	High Pressure	CO ₂



There were 515 fires involving transformers in the UK between 2011 and 2020.

- UK Fire Brigades Association (UKFBA)

MOTOR BOATS

The Fire Risk

Boats have several potential ignition sources that can increase the risk of fire, including engines, fuel systems, electrical systems, and cooking equipment. Older boats may be more prone to electrical issues, which can lead to fires, while boats with gasoline-powered engines may be more susceptible to fuel leaks and fires.

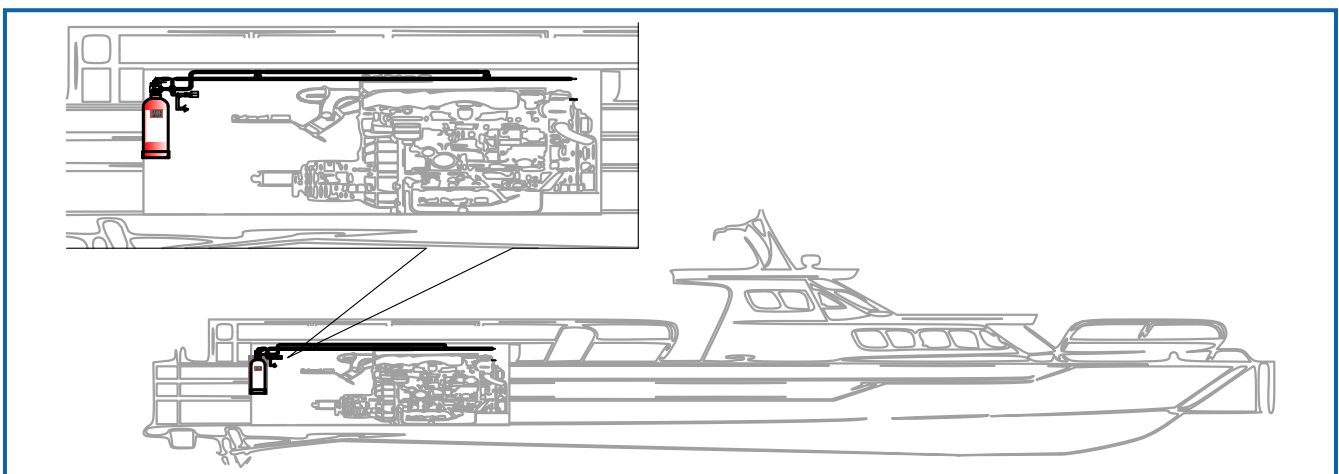
Ceasefire Recommends

System Variants		Agents
In-panel Tube Based Direct System	Low Pressure	ABC Powder MAP 90
In-panel Tube Based Indirect System	Low Pressure	Foam (Fluorine Free)
	Low Pressure	ABC Powder MAP 90
	Low Pressure	Fluoroketone (FK)



There were an average of 14 fire incidents involving motorboats per year between 2015 and 2019.

- Maritime and Coastguard Agency (MCA)



Explore our world certified range of Extinguishers, In-panel Systems, Kitchen Systems, Suppression Systems, Total Flooding Systems, Accessories and more on

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