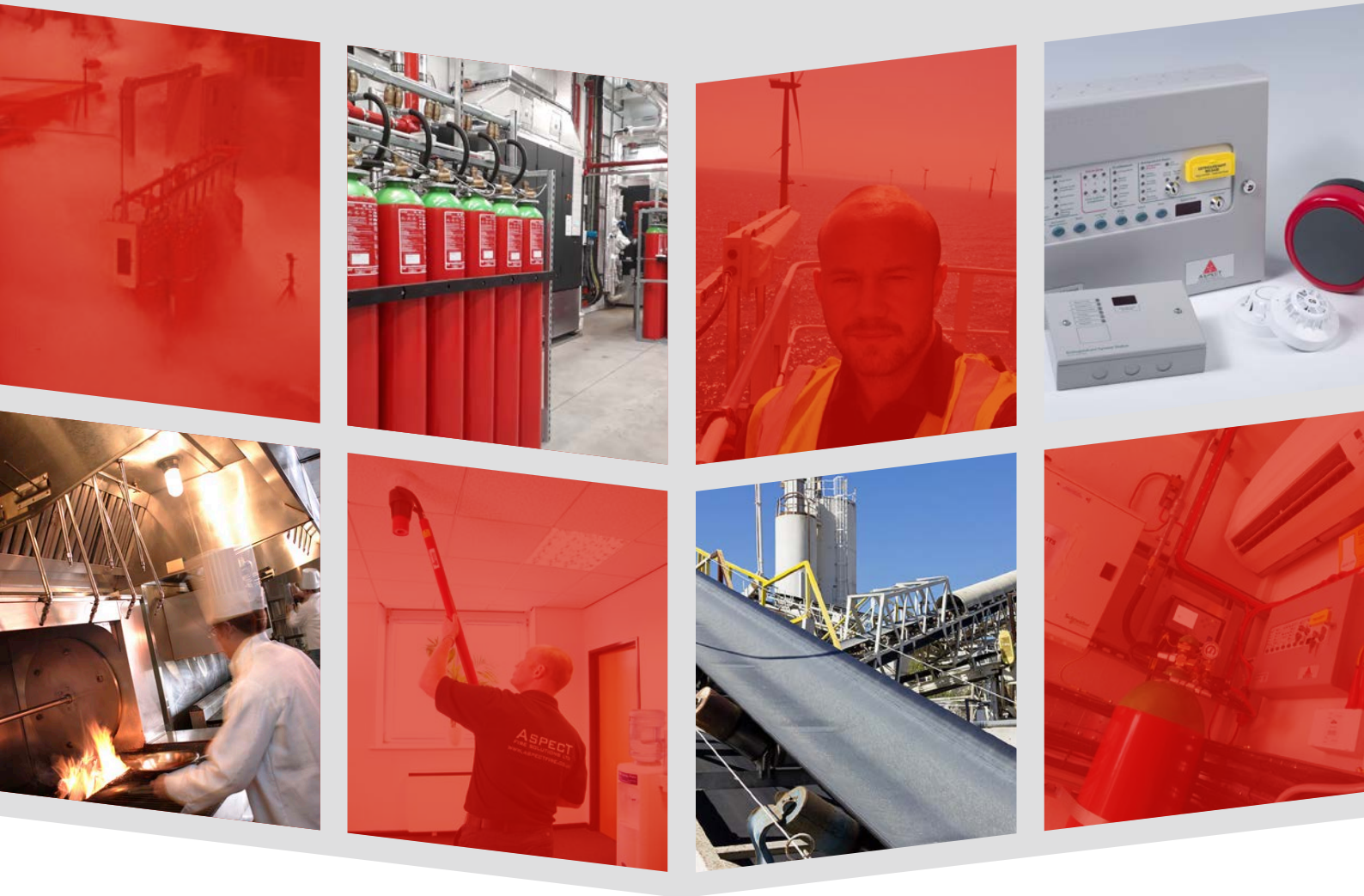




# Fire Protection Systems Specialists



# Aspect Fire Solutions: Protecting Life & Property by Design, Not Chance!

We have put together this brochure to provide an overview of the fire extinguishing solutions that we currently offer and how they protect life and property.

With over 20 years of experience, we specialise in designing, installing, and maintaining fire protection and suppression systems in the UK and overseas. We adhere to the industry's highest standards across all our product ranges and can offer guidance on the most suitable system or agent for your specific risks. Additionally, we can design and install a system for you and provide ongoing maintenance support.

If you have existing systems that need maintenance or upgrades, we can discuss and offer the best solutions to meet your requirements.

Our highly trained team of engineers and support staff are located throughout the UK, and the majority of work is done in-house. We also have a dedicated service and maintenance team, as well as a 24/7 call-out service for all our customers, providing confidence and support for their fire protection systems.

## NOVEC - (FK-5-1-12)

3M introduced NOVEC, which is a flourokeytone and a chemical fire suppression agent. Recently, 3M ceased its manufacture, and other companies are now supplying the market with a similar product, named FK-5-1-12. The FK-5 agent performs in the same manner as Novec.

### OVERVIEW

The FK5-1-12 Agent is a chemical compound of Flourokeytone: 'Dodecafluoro-2-methylpentan-3-1' to give its chemical name. It is stored as a liquid in various sized pressurised cylinders, (each system sized and filled to suit risk volume).

It discharges as an atomised vapour through dedicated pipe work and nozzles into room, ceiling voids / floor voids. Coupled with a double knock, co-incident detection system.

**FK-5 is a fast clean extinguishing agent. It is approved for use in normally occupied areas.**

### HOW NOVEC EXTINGUISHES A FIRE

FK-5-1-12 works to absorb the heat from a fire at a molecular level. Rapidly cooling/ extinguishing a fire.

FK-5-1-12 is colourless and leaves no residues or decomposition products. It is non-conductive and non-corrosive. The density of FK-5-1-12 is high, and an extremely, tightly sealed room is essential in order to achieve the required gas retention levels.

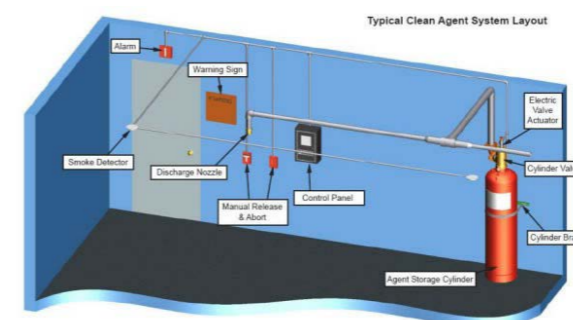
### SUMMARY

#### Features

- Safe for use in occupied areas
- Suitable for critical risk areas
- Approved for use on Class A,B&C Fires
- Proven on Tens of Thousands of installations worldwide.

#### Applications

- Computer Suites and Data Centres
- Gas Turbine Enclosures
- Telecomms Enclosures
- Power Generation
- Museum and Archives
- Generator Enclosures





# INERT Agents



Halon 1301 was widely used to extinguish fires until the 1980s. However, due to its ozone depletion potential, the use of Halon 1301 was discontinued in the late 1980s and the product was subsequently banned. Following this, a number of new extinguishing agents were introduced to the market, including chemical and inert-based products. Among these, the inert extinguishing agents have proven to be the most enduring and effective over time.

## OVERVIEW

The brand names for these agents were numerous, below are some of the most well known, together with their chemical compound name.

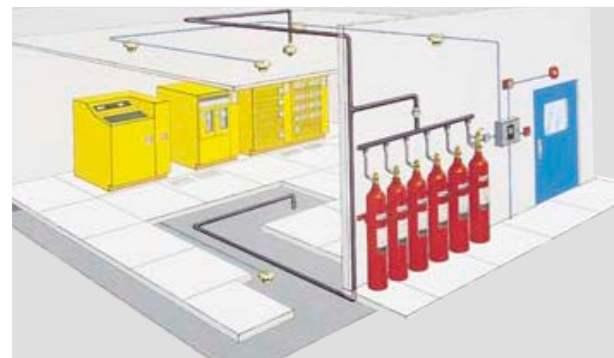
- **INERGEN (IG-541)**
- **ARGONITE (IG-55)**
- **ARGOGEN (IG-55)**

They are all a mixture of Nitrogen, Argon and in the case of IG-541 a small percentage of CO<sub>2</sub>.

They are all stored as a pressurised gas in standard size cylinders at 300 BAR pressure in standard size cylinders. They discharge through dedicated pipe work and nozzles into room, ceiling voids/ floor voids. Coupled with a double knock, co-incidence detection system.

## LIFE SAFETY

**INERT AGENTS** are fast, clean extinguishing agents. They use naturally occurring gases, Argon, Nitrogen and Carbon Dioxide. They are approved for use in normally occupied areas, and perfectly safe for human exposure at the system design concentrations.



## HOW INERT AGENTS EXTINGUISH A FIRE

Inert Agents extinguish a fire by reducing the oxygen content of an enclosure from approximately 21% found in ambient air to below 15%, at which most combustible materials will not burn.

Simultaneously the carbon dioxide in IG-541 assists the human body in the uptake of oxygen, protecting anyone who may be still within the enclosure at the time of discharge.

Inert agents are odourless, colourless and leave no residues or decomposition products. They are non-conductive and non-corrosive. The density of Inert Agents are similar to that of normal air which gives good retention qualities. This means that the room does not need to be sealed as tightly in order to achieve required gas retention levels. Inert Agents can be utilised to protect multiple areas in a building from a central cylinder bank. This is achieved using pneumatic directional valves, to divert the correct quantity of gas to the area where the activation has occurred, thereby reducing cost and the number of cylinders required.

## SUMMARY

### Features

- Truly environmentally friendly Fire suppression agent
- No Ozone Depleting Potential
- No Global Warming Potential
- Safe for use in occupied areas
- Suitable for critical risk areas
- Approved for use on Class A&B Fires
- Proven on Tens of Thousands of installations worldwide

### Applications

- Computer Suites and Data Centres
- Gas Turbine Enclosures
- Telecomms Enclosures
- Power Generation
- Museum and Archives
- Generator Enclosures





# Carbon Dioxide CO<sup>2</sup>



Carbon Dioxide, the original “clean” agent, has been used in a wide variety of fire suppression applications for over 50 years. It is typically used in areas designated as “unoccupied” because at the design concentrations used for fire suppression, carbon dioxide can be hazardous to people.

## OVERVIEW

Carbon Dioxide has the advantage over other extinguishing gases in that it can be used as a “total flood system” to protect areas such as generator rooms, switch rooms, which have solid walls, roof and floors, also, it can be used as “local application” where it can be discharged directly on to a high risk area of a production line such as a printing press or deep fat fryer for example and envelope the protected area in Carbon Dioxide to extinguish a fire.

Carbon Dioxide produces no chemical residues or decomposition products, therefore making it ideal to use in the food industry and industries where contamination of a process or product is not an option. It is not suitable for normally occupied areas. An electrical and mechanical lock off system must be incorporated into the detection and control system. We can include this element of the works.

## HOW CO<sup>2</sup> EXTINGUISHES A FIRE

Carbon Dioxide extinguishes a fire by physical means in two ways. Firstly by decreasing the oxygen level below 15%, most fires are unable to maintain combustion at such low levels. Secondly, by cooling and heat absorption.



## SUMMARY

### Features

- Local Application or Total Flooding applications
- No Residue To Clean Up After Discharge
- Applicable to “Deep Seated” Fires
- Zero Ozone Depletion Potential
- Electrically Non- Conductive
- Low Re-Filling Cost

### Applications

- Printing Presses
- Food Processing
- Deep Fat Fryers
- Transformer Rooms
- Electrical Switchgear

# AF-X Fire Blocker



AF-X Fire Blocker is a potassium-based aerosol agent that has been available for several years. When activated, it produces aerosol particles that absorb heat at a molecular level and suppress fires. Aspect Fire Solutions are authorised distributors for this system.

## OVERVIEW

The AF-X System, consists of Fireblocker generators sited strategically within an enclosure. The extinguishing agent is a solid aerosol-forming compound in a non-pressurized generator. The aerosol is self-generated by a combustion process of the solid aerosol-forming compound, activated by an electrical Impulse.

## LIFE SAFETY

We would recommend AF-X Aerosol systems are generally used in unoccupied areas and in the event of a discharge safety precautions are taken as outlined in the AF-X Manual during any post discharge clean up.

## HOW AF-X EXTINGUISHES A FIRE

Once activated, the solid compound is transformed into a rapidly expanding extinguishing aerosol which, after having passed a cooling section, exits through the outflow opening of the fire extinguisher area and extinguishes the fire in the protected area.

The aerosol generated extinguishes fires by stopping the combustion reaction on a molecular basis (by binding free radicals) without affecting the oxygen levels. The aerosol is made of micro-sized particles. These particles are suspended in a gas, whereby the ratio between the exposed surface and the reaction mass is extremely high (so that the amount of active material required for quenching can be kept to a minimum).

Particles of these dimensions remain in suspension for a relatively long time, allowing them to flow into the natural convection flows. This leads to an increase in the effectiveness of the extinguishing agent.

## SUMMARY

### Features

- Suitable for critical risk areas
- Approved for use on Class A,B and C Fires
- Proven on Thousands of installations worldwide.
- Ideal where rooms cannot maintain integrity required for other gaseous extinguishing agents

### Applications

- Gas Turbine Enclosures
- Power Generation
- Generator Enclosures





# ANSUL R-102



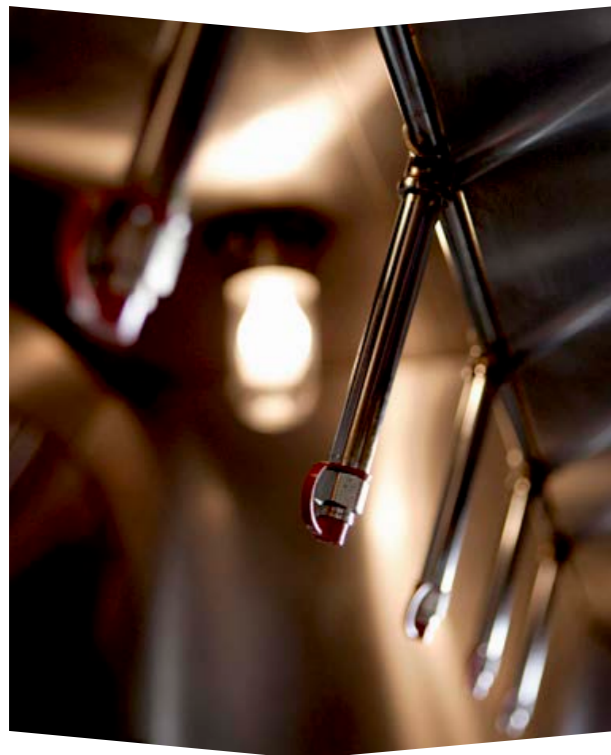
In commercial settings such as catering and hospitality, the safety of your kitchen staff is crucial to your company's success. A safe, well-functioning kitchen is essential for daily operations, and any disruptions can lead to lost revenue and adverse effects on other areas of the business.

## PROTECT YOUR COMMERCIAL KITCHEN

In today's commercial kitchens, higher temperature cooking oils, high-efficiency, slow-cooling appliances such as deep fat fryers have combined to make fire suppression more challenging than ever.

But the fact remains: the need to protect people and property from fire is crucial. And the system most food service operations trust to do this? **ANSUL R-102.**

Aspect Fire Solutions are approved to Supply, Install and maintain the prestigious R-102 Kitchen Fire Suppression Systems. We are official Ansul Distributors and one of a few to hold SP206 Accreditation for ANSUL Systems.



## HOW DOES R-102 WORK?

The R-102 system uses tried and tested fusible link technology to quickly detect a fire.

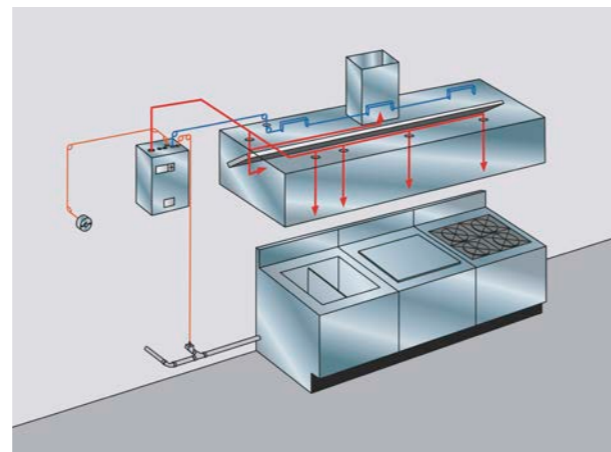
Simultaneously we can interface with any gas valve/ electrical supply to the equipment the fire is detected on.

The R-102 Suppression agent is discharged onto the fire, forming a solid layer of foam, this instantly cuts off the oxygen supply to the fire suppressing it within 30 seconds – and cooling it. People are protected and surrounding damage is minimised.

**ANSUL R-102** Fire Suppression Systems discharge **ANSULEX** Liquid Fire Suppressant, quickly knocking down flames and cooling hot surfaces.

The kitchen can be cleaned up immediately and the restaurant can resume normal operations in the shortest possible time.

We offer a 24/7 call out and maintenance facility for R-102 Systems to keep your system in optimum working order and to keep your business running.





# HP / LP Water Mist



Aspect Fire's water mist systems are usually accompanied by third-party approvals for a wide range of applications. These systems are supported by comprehensive third-party fire tests, ensuring a reliable and efficient solution that maximises both performance and practicality.

## HIGH PRESSURE WATER MIST SYSTEMS

High pressure water mist systems are supplied either as cylinder systems or with a high pressure pump assembly and storage tank. The type of system supplied will be dictated by the coverage area required and the required run time of the agent.

High pressure systems are suitable for use on either Class A or Class B fires although the mechanism for the control and extinguishment of the fire will vary depending on the risk.

Tube and fittings utilised on high pressure systems are 316L stainless steel.



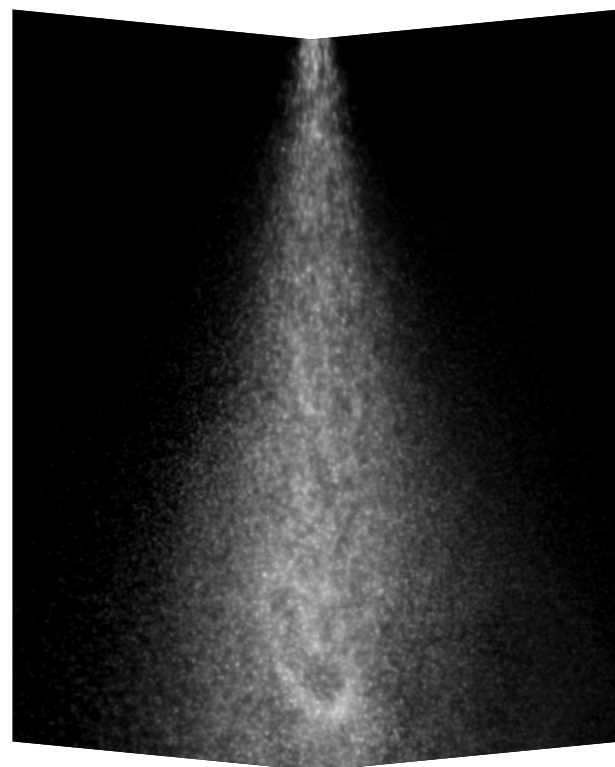
## WATER MIST APPLICATIONS

- Generator Enclosures
- CHP Enclosures
- Paint Spray Booths
- Machinery Applications
- Steam Turbines
- Office Blocks
- Hospitals
- Data Centres

## LOW PRESSURE WATER MIST SYSTEMS

Low pressure water mist systems are supplied with a pump assembly and break tank. As with high pressure systems, low pressure systems can be utilised on both Class A and Class B fires but are typically employed as an alternative to conventional sprinkler systems where water storage is difficult.

As less water is used when compared to standard sprinkler systems, the low pressure mist distribution pipework is also of a smaller bore than sprinkler pipework, thereby facilitating an easier installation. All tube and fittings employed on a low pressure mist system are corrosion resistant in nature, such as galvanised or stainless steel.



# Fire Alarms



Fire alarms are essential for ensuring the safety of individuals and property. They provide an early warning system for potential fire outbreaks, playing a vital role in preventing loss of life and reducing property damage. They work by detecting smoke, flame or heat and alerting occupants so they can evacuate promptly.

## FIRE ALARMS

At Aspect Fire Solutions, we are able to offer the latest systems to suit your premises whether a small office block or site wide industrial premises.

- Fire alarm system design
- Fire alarm system installation
- Fire alarm system servicing
- Fire alarm & system integration - thermal imaging, water cannons & extinguishing systems

## SYSTEM TYPE

We are able to offer simple conventional fire alarm systems or addressable systems, suitable for most commercial premises. We also offer Networked site wide fire detection and alarm systems, these can be coupled with graphical interfaces to view and control your site wide fire systems, including thermal imaging. There are prescribed standards in place which give guidance Fire Detection System on the manufacture, design and installation of fire alarms, we have a wealth of experience in designing, installing and maintaining fire systems.



## INTEGRATED SYSTEMS

In order to optimise the performance of any fire suppression system service and maintenance in accordance with the relevant standards is essential. We are able to offer full 24/7 maintenance and call out facility. In addition we offer in house room integrity testing of protected enclosures.





# Reactive Works



We have a department set up to support our service teams when a problem is found and needs quick attention. We can refill discharged systems and repair or upgrade existing systems without the need for a full replacement.

## SYSTEM DISCHARGES / REFILLING

Has your system discharged? Is your system due mandatory 10 year testing? Whether a service customer or not we can help you. Either re-filling your own cylinders or providing service exchange cylinders, our F-Gas trained Engineers will have your systems re-instated and protected as quickly as possible.



## THE SYSTEMS WE CAN SUPPORT

- FM200
- INERT AGENTS
- ARGONITE
- ARGOGEN
- NOVEC
- FK-5-1-12
- ECARO
- ANSUL R102 KITCHEN SYSTEMS
- AMEREX KITCHEN SYSTEMS
- HIGH PRESSURE WATER MIST SYSTEMS

## 10 YEAR STRETCH TESTING

Gaseous Fire Suppression System Cylinders require to be stretch tested every 10 years. We can provide this service for you, whether an existing maintenance customer or not. We can discuss the best options to ensure your business is protected throughout the operation. We can offer this service on the majority of gaseous and kitchen fire suppression systems.

# Service & Maintenance



“An ounce of prevention is worth more than a tonne of cure.” These words are never more true than when discussing life safety systems. At Aspect Fire Solutions, we understand the importance of high-quality service and maintenance of fire protection systems.

Ensure the optimum performance of systems which at some time may be called upon to operate in an emergency situation and may help in saving life and property.

At Aspect Fire Solutions we follow the prescribed standards as outlined in **BS 5839 PART1**, **BS EN 15004**, **BS 6266** and all relevant standards.

## WE ARE ABLE TO OFFER THE FOLLOWING

- Centralised service desk and co-ordination
- Network of Engineers throughout the UK.
- Service a wide range of systems from most manufacturers.
- 24 Hour Call out Facility, 365 days a year
- Re-Filling of Fire Suppression Systems
- Ultrasonic Level testing
- 10 year Stretch Testing
- Room Integrity Testing



## THE SYSTEMS WE MAINTAIN

- FIRE ALARMS
- VESDA SYSTEMS
- ALL GAS SUPPRESSION SYSTEMS FM200, NOVEC, ARGOGEN, INERGEN, ARGONITE AND CO2
- HIGH AND LOW PRESSURE WATER MIST.
- ANSUL R102 Kitchen Fire Suppression Systems
- AMEREX Kitchen Fire Suppression Systems

# Comprehensive Nationwide Fire Suppression Coverage



Specialist Providers of Fire Detection  
& Fire Suppression Systems  
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