Fire Protection Technologies is the largest independent supplier of product, design and engineering services in Australia, New Zealand and Asia Pacific. In conjunction with our ‘whole of life’ approach to our product range, technical support, design and engineering solutions available throughout all stages of a project from development to delivery, we will continue to provide ongoing support for the life of the product.

Wholly Australian owned and operated we have a team dedicated to customer support, complete with 350+ years combined practical experience in delivery and engineering of special hazards projects.

Being the sole distributor in this region for some of the world’s largest and technically advanced product manufacturers, together with our technical capabilities enables us to provide the highest quality products including technical and product support.

Our philosophy “EVERY SOLUTION FOR YOUR SPECIAL HAZARD PROBLEMS” drives us to continue searching the world for the highest quality products to combine with our existing product range in order to provide the best possible solution for your special hazard problems to protect people, property and business continuity from the hazards of fire and explosion.

Our aim is to provide design driven solutions and to educate our customers on their options including advantages and disadvantages enabling our customer to make an informed decision on what product best serves and meets their needs.

Technical support, design and engineering assistance will be available for the life of the product; our staff and product managers regularly attend product training with all our manufacturers enabling us to maintain the highest level of up to date local support and technical assistance.

With offices and warehouses in Melbourne (Head Office), Sydney, Brisbane, Perth, Auckland and Singapore, including regional managers for South Australia, Tasmania, Northern Territory and Malaysia. We continue to grow throughout the Asia Pacific region.

Fire Protection Technologies continues to develop infrastructure to support all of our customers and their needs. Fire Protection Technologies provide environmentally responsible, people safe fire protection solutions for all your special hazard fire protection problems.

"To provide our customers with the best possible service, the highest quality products and the right solution for their needs"
1. Would your equipment be damaged or inoperable if impacted by water (fire sprinklers) or dry chemicals?
2. Is your equipment and service difficult to replace?
3. Do people occupy your facility?
4. Can your facility tolerate business interruptions and downtime? Will your customers?

If the answer is "Yes" to any of the above, then a Clean Agent Fire Suppression System IS the right SOLUTION FOR YOU!

**GASEOUS SUPPRESSION**

"We will help analyse your needs to determine the most suitable fire suppression agent for your application and your business"

Gaseous Fire Suppression or Clean Agent fire suppression are terms used to describe gases used to extinguish fires. Typically gaseous agents work in one of two ways, the first is to inert the atmosphere reducing oxygen levels to a level that will no longer sustain combustion, the second is to react chemically with the fire absorbing heat and causing the chain reaction of combustion to break down.

Clean Agent fire extinguishing systems are typically used to protect three dimensional enclosures containing high value assets that are vital for business continuity, and assets that cannot be protected by traditional sprinkler systems due to the potential for water damage. Typical examples of system applications include telecommunication facilities, clean rooms, data processing centres and museums.

Regulatory authorities govern the use of gaseous agents, systems and hardware. Compliant systems are subject to testing and an approval process that takes into account agent importation licenses, pressure vessel approvals, system performance, reliability, human safety, environmental impacts etc. Clean Agent fire suppression products supplied by Fire Protection Technologies are environmentally friendly and cost effective solutions and meet all regulatory authority requirements.

Where easy clean-up, minimal down time, business continuity and people safety are overriding factors, you need to consider clean agent gaseous suppression for your fire protection needs. We will help analyse your facility and operations to determine the most suitable fire suppression agent for your application and your business.

A fire is DEVASTATING! Conventional fire systems provide personal and structural protection. But when it comes to high value assets and irreplaceable items, water can be just as damaging as any fire!

**SO WHY CLEAN AGENT SYSTEMS:**

Would your equipment be damaged or inoperable if impacted by water (fire sprinklers) or dry chemicals?
Is your equipment and service difficult to replace?
Do people occupy your facility?
Can your facility tolerate business interruptions and downtime? Will your customers?

If the answer is "Yes" to any of the above, then a Clean Agent Fire Suppression System IS the right SOLUTION FOR YOU!
**INERT GASES**

**PROINERT™** is a clean agent fire extinguishing system using inert gas (IG55, IG541, IG100 or IG01) and is used in total flooding systems.

PROINERT™ has become widely accepted as the best performing, most cost effective, and environmentally friendly inert gas suppression system, offering extended hold times and great flexibility in design.

PROINERT™ is an ideal choice for a wide variety of industries and applications, suitable for facilities such as computer rooms / data centres, telecommunications facilities, and the like. PROINERT™ is unique in that it utilises a pressure regulating discharge valve which produces lower discharge pressures which also translates into lower costs all around, resulting in savings with pipe work, venting area and cylinder storage.

**PROINERT™ SYSTEMS:**
- Discharge in 60 seconds or less
- Utilise 300 bar storage pressure
- Extinguishes a fire quickly and effectively
- Leaves no residue, is non-conductive and does not require costly clean-up
- Minimises down time of vital system operations
- Superior design allows for convenient long pipe runs
- Zero ozone depleting potential
- Safe for use in occupied areas
- Approved by FM, UL, or ActiveFire

**NOVEC 1230™**

Novec 1230™ (C6 Fluoroketone) Fire Protection Fluid is a second generation clean agent gaseous suppression system. NOVEC 1230™ is a chemical agent used primarily in total flooding systems and is the most environmentally benign of all the chemical agents.

NOVEC 1230™ is used in applications ranging from computer rooms / data centres, telecommunications facilities, switch gear, high-tech medical applications, and pleasure craft to priceless works of art and historic landmarks. NOVEC 1230™ is truly a real breakthrough in clean agent technology, a liquid at room temperature, it looks, feels and acts like water allowing flexibility in recharge procedures. In particular our higher storage pressure at 34.5 bar (500psi) allows the greatest flexibility for the system design.

**NOVEC 1230™ EXTINGUISHING AGENT:**
- Discharge in 10 seconds or less
- Utilise 34.5 storage pressure
- Extinguishes a fire quickly and effectively
- Leaves no residue, is non-conductive and does not require costly clean-up
- Minimises down time of vital system operations
- Requires minimal container storage space
- Zero ozone depleting potential
- Global warming potential of only 1
- Atmospheric lifetime only 5 days
- Safe for use in occupied areas
- FM and UL Approved

**PROINERT™** is a clean agent fire extinguishing system using inert gas (IG55, IG541, IG100 or IG01) and is used in total flooding systems.
Carbon dioxide (CO₂) is a colourless, odourless, electrically non-conductive gas that is highly efficient. CO₂ has been used as an extinguishing agent for more than 80 years and was the first gaseous agent used for fire suppression. It can be used for local application and total flooding systems and is suited to a wide range of applications and hazards. CO₂ has a high rate of expansion enabling rapid fire suppression and provides a heavy blanket of gas that reduces the oxygen level to a point where combustion cannot occur. CO₂ is not approved for occupied spaces unless fitted with a safety interlock device to prevent the system from discharging when the enclosure is occupied.

Like all fire protection systems, CO₂ systems should only be designed by experienced engineers. CO₂ can be used to protect applications such as generator sets, turbines, switch gear, flammable liquid baths, electrical enclosures and transformers.

**FM-200® (HFC-227ea)**

Clean Agent fire extinguishing systems are the most widely used of all the halocarbon gaseous agents, and is universally accepted as the best agent used to replace Halon 1301.

FM-200® is a chemical agent used primarily in total flooding systems and has been installed in over 200,000 systems worldwide.

FM-200® fire suppression systems protect everything from computer rooms / data centres, telecommunications facilities, and switch gear to military vehicles, high tech medical applications, and pleasure craft to priceless works of art and historic landmarks around the world.

**FM-200® AS THE EXTINGUISHING AGENT:**

- Discharges in 10 seconds or less
- Extinguishes a fire quickly and effectively
- Leaves no residue, is non-conductive and requires no costly clean up
- Reduces loss and damage due to fire and helps ensure business continuity
- Minimises down time of vital system operations
- Requires minimal container storage space
- Superior design performance allows for greater flexibility
- Zero ozone depleting potential
- Low global warming potential
- Short atmospheric lifetime
- Safe for use in occupied areas
- Best warranty in the fire protection industry
- Active Fire Listing, FM and UL Approved
Conventional Sprinkler Systems are designed primarily to control the fire and prevent building structural collapse, and pre-wet the surrounding combustibles to prevent fire spread. This is achieved using copious quantities of water.

Water Mist suppression systems are specifically designed to either suppress or extinguish a fire. Water is an outstanding fire suppression agent due to its high heat capacity and latent heat of vaporisation. Critical to water mist efficacy is the nozzle which is specially designed to produce a specific range of droplet sizes and velocities.

The larger droplets have sufficient energy and momentum to penetrate the fire plume and cool the fuel. The smaller droplets increase the overall enthalpy of the enclosure as well as being converted to steam at the flame front and entrained into the plume thereby displacing oxygen. Extinguishment is achieved by a combination of these mechanisms.

“Water Mist fire suppression systems are specifically designed to either suppress or extinguish a fire”
High Pressure Water Mist systems are those with operating pressures of 34.5 bar (500 psi) or greater. Water supply pressure can be provided by a high pressure pump (120 bar) connected to a tank or continuous water supply or by high pressure nitrogen cylinders (200 bar) driving a number of separate water containers. Mean droplet sizes of these systems are approximately 100-200µ (micron) in diameter and are ideally suited to most applications including Class A hazards.

This means that High Pressure Water Mist systems can be used either in an open head configuration (deluge), or in a closed head configuration within an assumed area of operation (protection). In many cases, these systems are able to substitute for sprinkler systems providing equivalent protection with a fraction of the water usage.

A unique permutation of this technology is a Water Mist system specifically designed to extinguish fires in commercial kitchen environments, doing away with conventional wet chemical systems and the potential messy clean-up process. The system complies with AS 4587 and is LPCB approved for specific kitchen exhaust hood applications.

Intermediate Pressure Water Mist systems are those with operating pressures greater than 12.1 bar (175 psi) but less than 34.5 bar (500 psi). The most common examples of these systems are self-contained, skidded units that have water stored at atmospheric pressure and high pressure nitrogen cylinders to provide the propellant to discharge the water. Mean droplet sizes for these systems tend to be larger than that for high pressure systems and since they have a limited water supply are usually limited to certain size risk volumes up to 1000 cubic metres.

Typical uses of Intermediate Pressure Water Mist systems include turbine enclosures, machinery spaces, hydraulic pump rooms etc. These extremely economic systems have been found to be very popular due to the self-contained skid arrangement incorporating a single connection point for water outlet and actuation as well as the ability for the releasing and control panel to be mounted directly on the skid.
Low Pressure Water Mist systems are those where the distribution piping is exposed to pressures of 12.1 bar (175 psi) or less. Very similar to ‘low flow’ sprinkler systems where the flow rates and mean droplet size are generally higher than that for high pressure or intermediate pressure Water Mist systems.

These systems are usually installed together with conventional sprinkler alarm valve equipment and are quite economical; however the applications are somewhat limited as the extinguishment efficacy is lower than that of High and Intermediate Pressure Water Mist systems.

Hybrid Water Mist systems are a combination of clean agent inert gas and water. The mist is produced in a manner that maximises the best attributes of each. Nitrogen is injected into the water stream at the nozzle producing extremely small droplets and also acting to reduce the oxygen concentration in the protected risk. This translates into a Water Mist system that is practically dry making it ideal for protection of computer rooms, data centres and the like.

The Water Mist droplets (less than 10 micron) are up to 100 times smaller than water particles delivered by a traditional Water Mist system, providing 50% improved heat absorption and total extinguishment. Nearly zero water residue in protected areas means there is no water damage after the fire is extinguished. Hybrid systems easily extinguish small fires in large rooms and also work well in naturally ventilated environments.

The homogeneous mixture of water droplets and nitrogen gas is propelled with enough energy to overcome the drag effect that has limited the effectiveness of traditional Water Mist systems.
Foam Products encompass a wide range of products and equipment that includes firefighting foam concentrates, foam storage containers / tanks, foam monitors, foam system distribution and proportioning hardware. Firefighting foam or Foam Concentrate is used for fire suppression of flammable liquids.

Its role is to cool the fire and to coat the fuel, preventing its contact with oxygen, resulting in suppression of the combustion.

For a typical industrial foam system the storage vessels (e.g. Bladder Tank or Atmospheric Tank) contain the foam concentrate and are connected into the distribution system ready for immediate use in the event of a fire. The associated distribution hardware and proportioning equipment are also connected into the piping system and control the amount of foam and how it is distributed to the hazard on fire.

As the world develops and technology changes, we constantly find ourselves looking at new applications and hazards. Foam extinguishing technology and products are also constantly evolving to meet these challenges.

For any particular application there can be a number of possible solutions. Talking to fire engineers that specialise in foam products should be your first stop in achieving the best result for your application.

“Its role is to cool the fire and to coat the fuel, preventing its contact with oxygen, resulting in suppression of the combustion”
Fire Protection Technologies supply fire fighting foam concentrates to meet a wide range of fire fighting challenges, including industrial, marine, mining, municipal, oil, petrochemical, and transportation applications.

Our aqueous film-forming foams (AFFFs), Class A foams, wetting agents, high-expansion foam concentrates, and protein foams are suitable for ground and air attack, creating firebreaks, used with compressed-air foam systems (CAFS), and mop-up operations.

Fire Protection Technologies fire fighting foams are some of the most environmentally friendly products in their class in the world.

Our AFFF products have 30-70% less fluorochemical content than other UL Listed products on the market, while our alcohol-resistant aqueous film-forming foam (AR-AFFF) has some of the lowest and best application rates in the industry. Because of their effectiveness, Fire Protection Technologies foam concentrates can achieve knockdown faster and with lower product volumes than similar agents, which can substantially lessen property damage and environmental impact.

In addition, our Fluorine Free Foam Concentrates are some of the most environmentally friendly products in their class in the world.

Innovative Compressed Air Foam Systems (CAFS) are also available and have a particular advantage over traditional foam water systems as they require much lower water flow and pressure. CAFS systems can therefore be designed for applications with as much as 75% less water demand.

FireDos® is cost effective and also eliminates the need for installation of expensive foam concentrate pumps, bladder tanks and associated equipment.

Accurate foam proportioning equipment is vital to the overall performance of the foam fire protection system and we offer a complete range of proportioning systems. Our range of in-line inductors, ratio controllers, balanced pressure proportioners and bladder tanks are second to none.

Included in our range is the revolutionary proportioning system that operates without any external power supply.

Drive for the FireDos® unit is provided solely by the water supply being used to fight the fire. The rotation speed of the drive motor is proportional to the volumetric flow rate, thereby enabling the FireDos® unit to accurately proportion product concentrations from as low as 0.1% up to 6%. It is capable of handling practically any fluid from a flow rate of 10 L/min. to 20,000 L/min. and is not affected by fluctuations in flow or pressure.

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FOAM CONCENTRATES

Fire Protection Technologies engineered and manufactured fire suppression systems ensure a rapid, thorough, and economical response to fires and spills. Customised to application specifications, our dependable engineered systems include equipment such as bladder tanks and pump-type balanced pressure proportioning systems; high-expansion foam systems; large dry chemical systems and skids; twin-agent systems and skids; foam trailers; large dry chemical and twin-agent trailers; monitor trailers; aqueous film-forming foam (AFFF) pump systems; water powered AFFF pump skids; foam/water monitors; nozzles; inductors; ratio-flow controllers; foam makers; foam chambers, and specialised proportioning storage and monitor trailers.

Our wide variety of nozzles and inductors provide targeted and effective foam dispersal consistently and dependably in prolonged use.

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FOAM PROPORTIONING

FOAM DELIVERY SYSTEMS
Explosion Protection Systems and devices are used to protect many industrial processes against internal explosions or deflagrations. Our various explosion protection systems extend from simple explosion pressure relief devices to highly developed, ultra high speed explosion detection and suppression systems; operating at millisecond speed to prevent damage and resultant losses from the explosion.

“Our unique range of fire and explosion detection is second to none”
Explosion Suppression systems are designed to detect and chemically suppress an explosion in its earliest stages before it can cause a disaster or become catastrophic. While unsuppressed explosion pressures can reach dangerous levels in less than 50 milliseconds. This unique technology can detect and respond in less than 1 millisecond - averting a catastrophe.

Additionally, an isolation system prevents the propagation of flames to other process equipment. Patented container and nozzle designs minimise flow restrictions, helping extinguish the explosion faster and minimising pressure build-up inside the process equipment. The suppression container has no moving parts or wear points, increasing the reliability of the system.

Total explosion risk management must include ways for preventing crippling business downtime and minimising the devastation of equipment, facility and potential loss of life.

Proven explosion isolation systems prevent the propagation of flame from one part of the process to another through the use of fast-acting explosion isolation valves and/or chemical barriers.

Mechanical explosion isolation involves the use of uniquely designed mechanical valves which provide an actual physical barrier to prevent the spread of an explosion through connecting pipe work.

Chemical explosion isolation is achieved through a rapid discharge of a chemical explosion suppressant to prevent the flame from continuing through to other areas of your process system. An explosion detector initiates the release of the extinguishing agent when it detects a deflagration pressure or flame front preventing the propagation of flame and burning materials.
**Explosion Protection**

### Explosion Vents & Pressure Relief

Explosion venting is the most common explosion protection strategy in use today. When properly applied, explosion venting will prevent the explosion from reaching potential maximum pressures of 10 bar, or higher. Various types of devices are used to provide explosion overpressure protection, such as certified rupture panels or vents.

Explosion venting provides overpressure protection from potential industrial explosion hazards by providing a planned pathway for the expanding gases to escape. Damage to industrial equipment subjected to explosions can be controlled through the use of explosion vents that are virtually maintenance free.

In addition, safe venting of explosions in electrical switch rooms provide structural integrity and prevent building destruction in the case of an electrical ARC explosion. Our range of explosion relief vents include resettable venting systems specifically for explosion relief of electrical substations and switch rooms.

### Spark Suppression

Spark detection and extinguishing systems detect and extinguish a spark or burning ember in under 300 milliseconds. This rapid detection and suppression can save dust filters or collection bins upstream from destruction caused by fire.

Detecting a spark in a pneumatic material transport duct at speeds that often exceed 25 meters per second requires a very sensitive and very fast sensing device. Detectors provide the sensitivity, speed, durability and reliability that such an application demands. High speed infrared detectors that actually count sparks can quickly actuate a suppression system that utilizes water, CO₂ or other extinguishing agent of choice to effectively protect the operating plant from fires and explosions.

The detectors automatically and immediately reset themselves so that they stand ready to detect any possible subsequent sparks.

### Explosibility Testing

Explosibility testing provides a basis for safe plant design, operating parameters, and handling procedures. In conjunction with our explosion protection partners, Fike Corporation, we offer a wide range of explosibility tests designed to assist companies in identifying and mitigating costly explosion hazards.

Fike’s ‘state of the art’ testing laboratory is staffed with highly trained technicians, engineers, and combustion scientists; and tests are conducted in accordance with ASTM and CEN standards to assure proper execution and interpretation.

We can provide tests in both small and large scale explosion test vessels. These test vessels are designed and constructed to provide accurate explosion protection data that is scalable to industrial equipment volumes.

Fike also maintains a unique 2,500 sq.m remote test facility for conducting large scale research, product development, and industrial application tests. At this isolated location, full scale tests can be conducted where explosions and release of flame can be carried out safely.
“Our range of detection products fill the gap providing system performance to protect critical assets”

In Many Applications traditional point type detection is not used in the way or for the purpose they were designed, resulting in inadequate detection performance. New products are continually being developed to deal with the ever increasing needs for these special applications. Our range of detection products fill the gap providing superior system performance to protect your critical assets.
In today’s complex industrial environments, the potential for down time and financial losses caused by overheating and fire can be disastrous if not detected and located quickly.

Temperatures are recorded along the sensor cable as a continuous profile and the system is capable of detecting fire and overheat conditions over distances up to 10 km. The Fibre Optic system uses a semi-conductor laser diode and revolutionary evaluation procedures to reliably detect small temperature change along the length of the cable. Suited to long continuous cable runs fibre optical heat detection is another weapon in the arsenal of detection products.

Digital linear heat detection cable is a conventional style heat detector, capable of detecting a fire along the length of the cable. This simple but effective system can be combined with smoke detectors to deliver multi-purpose systems.

The product range consists of a standard two core cable of various temperature ranges, including the only FM approved heat detector for temperatures below 68 degrees Celsius. The XLT type cable has an alarm temperature of 57 degrees Celsius and is purpose built for cool room / freezer environments. Included in the range is a dual temperature sensor cable, and an alarm point locator. Digital linear heat detection is a cost effective and simple way to provide heat detection with continuous detection along its total length.

Digital linear heat detection is increasingly becoming the first choice in fire protection, with ever increasing complex application and the potential for loss and down time, the right choice is critical to business continuity. In many applications traditional point type detectors are not used in the way or for the purpose they were designed. Micro Chip linear heat detection is becoming a preferred alternative for many of these applications. This system from Listec is an intelligent Micro Chip linear heat detection system capable of rapidly and accurately detecting temperature changes of (±0.1°C) along its length (up to 2.8 km), with multiple alarm thresholds including fixed point, rate of rise and pre-alarm. Add that to the system’s fast response time, simplicity, flexibility and ease of installation, Micro Chip linear heat detection will become the new benchmark in linear heat detection.

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When you need an intelligent or conventional fire suppression control system for your special hazard application, we have the solution. Our range of control panels are designed to deal with the demands put on a fire protection system when it is expected to perform. When it comes to potential fire and smoke damage to your critical assets, you deserve the best information and the fastest response time. Our intelligent fire suppression control system is the ideal choice for your next installation of Fire Alarm, Clean Agent fire suppression, Carbon Dioxide suppression or Water Mist system using true peer to peer technology. That means every fire protection module and sensor can act as a peer, able to communicate directly with the detection control panel. This direct communication reduces the fire protection response time to as little as 0.25 seconds. And every fire detection device can also generate highly detailed, accurate information, making our detection and control system one of the fastest and most versatile fire suppression systems available.

Flame Detectors operate in the harshest environmental conditions and offer a solution for virtually any application where there is a fire risk to personnel and high value plant and capital equipment.

We offer flame detection solutions with fast response times, the best area coverage, the highest immunity to false alarms and all the performance and safety approvals you need. Before you decide you need to know the ‘pros and cons’ of each type of detector as no single detector is suitable for every situation. Apart from hydrocarbon fires, our wide detector range can help with other special fire types eg. hydrogen, ammonia and silane.

Industrial and commercial applications for flame detection include offshore oil and gas platforms, FPSOs, oil and gas pipelines, petrochemical plant, refineries, aircraft hangars, flammable fuel storage tanks, hydrogen filling stations, munitions plants and many more.

Very early warning smoke detection solutions provide the earliest possible warning of an impending fire hazard. Add boys time to investigate an alarm and initiate an appropriate response to prevent injury, property damage or business disruption. And because Fire Protection Technologies has the industry’s widest sensitivity range and multi-level alarms, even minute levels of smoke can be detected before a fire has time to escalate.

It works by continuously drawing air into a distributed pipe network via a high-efficiency aspirator. The air sample then passes through a dual-stage filter. The first stage removes dust and dirt from the air sample before it enters the laser detection chamber. The second, ultra-fine stage provides an additional clean-air supply to keep the detector’s optical surfaces free from contamination, ensuring consistent absolute detection and long detector life as well as minimizing nuisance alarms.
Video Imaging Detection (VID) cameras can see and recognise smoke and flames overlooking large spaces at great distances, while providing video surveillance capabilities as a bonus. They will detect fire in seconds, supply vital situational awareness in the form of live video to remotely located guards, trigger fire alarms, and provide a vast amount of pre-recorded video forensic evidence for future fire investigations.

VID cameras can detect:
- presence of flames within the field of view of the camera
- reflected fire light when flames are obstructed
- presence of pluming smoke clouds
- presence of ambient smoke
- unauthorised intrusion

VID is deployed in conjunction with an advanced IP Network Video Recorder (NVR) platform that can address immediate security needs of your organisation. Large capacity internal storage provides continuous digital video recordings with instant access to current and archived events from virtually anywhere over local and public networks.

Our thermal imaging fire detection system is a reliable system for surveillance and recognition of spontaneous fires inside bunkers, coal conveyers, rubbish dumps, paper and cardboard recycling plants and the like. The probability of spontaneous combustion in these areas is high with disastrous effects for personnel and the environment.

Thermal imaging detection systems utilise high performance infrared cameras and a powerful software package to analyse thermographic images to detect hot spots making it a very early warning fire detection system.

The infrared cameras can be mounted on a pan-tilt arrangement and automatically monitor a defined area, continually measuring the surface temperature. Alarm temperatures are programmable as is the area being monitored. Features include image storage and automatic water or foam monitor control.
Fire and Explosion Protection Systems for the military forces are manufactured to stringent standards and undergo comprehensive testing to ensure reliable operation in the most difficult and hazardous environments imaginable.

Our partners in this sector include Spectrex a worldwide manufacturer recognised for the design and development of these types of systems.

“Protection for armoured fighting vehicles and ships”
Troops rely on their confidence in the fire protection system to stay inside the vehicle when combat occurs. If they are not confident that the system will keep them safe when the vehicle is hit by an IED, RPG etc. they will need to leave the vehicle, only to be exposed to direct enemy fire.

A fire inside an armoured fighting vehicle caused by enemy fire can rapidly grow to engulf areas that are covered with fuel and produce high intensity heat radiation, smoke and the risk of an internal explosion.

Our Automatic Fire Extinguishing System (AFES) detects fires and explosions, including ‘slow growth’ fires and will automatically initiate the high speed suppression system to extinguish the fire or explosion and provide survivability for the personnel within the vehicle.

Engine bay systems are also available to rapidly detect and extinguish any fires that may occur as a result of overheating in combat or from enemy fire.

Naval vessels are unique in that almost every part of the ship requires a specialised type of fire protection system. Hazards such as engine rooms, generator rooms, control rooms, ammunition magazines and kitchen areas potentially require different fire protection methods.

Our unique range of products and systems gives us the advantage in protection of naval vessels. Our gaseous fire suppression and water mist system range is ideally suited to these types of areas, as is our video imaging flame and smoke detection and linear heat detection systems.

In addition, we are ideally placed to provide comprehensive system design and engineering as well as after sales support, including service and maintenance.
SPECIAL APPLICATIONS

“With our extensive range of products we can protect even the most unusual risks”

Our Extensive Product Range is not limited to the protection of large assets such as data centres, road tunnels, oil refineries or critical switch rooms etc. We also have products to protect small hazards economically.

We can provide fire detection and suppression solutions for hazards such as postal drop boxes, auto teller machines, EDM machines, wave solder machines, lathes, small engine spaces, portable generator sets and individual electrical switchboards etc.

Fire detection methods include linear heat and spark detection as well as specialised smoke and flame detection. Fire suppression techniques involve the use of various gases, wet and dry chemicals as well as water mist and foam.
These systems are small, self-contained detection and suppression systems requiring no external electrical power or fire detection system. They are ideal for the protection of critical equipment, electrical switchboards and various types of enclosures.

Two system configurations are available, a direct system that delivers the agent through the detection tube directly to the fire, or the indirect system using the detection tube to detect the fire and discharging the agent through a pipe network with nozzles.

This unique detection system can be installed through the smallest or most complex enclosures to ensure detection is always close at hand. The system can be utilised anywhere that fire poses a risk and it is flexible enough for virtually any industrial equipment, traditional as well as emergency vehicles, storage compartments, control cabinets or various types of remote installations.

Oxygen reduction systems prevent fire proactively, eliminating damage and business interruption that occur when suppressing a fire after it has already started.

The key to the technology is that oxygen-reduced (hypoxic) air is produced by partly filtering out oxygen from ambient atmospheric air. Normal atmosphere contains 21% oxygen. The hypoxic air injected into a FirePASS® protected space is 15% oxygen and 84% nitrogen (1% is made up of argon, carbon dioxide and other gases). Initial combustion cannot occur at this level. Common flammable solid materials and liquids cannot be ignited with an oxygen level below 16%.

Unlike other oxygen depletion fire prevention systems which inject pure nitrogen, FirePASS® injects natural air with lowered oxygen (around 10%) into the protected areas. This is inherently safer for occupied areas and more acceptable to occupational health and safety bodies. Injection of pure nitrogen can pose problems with pockets of high concentration where personnel can become affected.

The FirePASS® technology is patented and universally accepted by occupational health and safety bodies worldwide including OSHA in the United States and Worksafe.

This oxygen reduction technology is ideal for the protection of risks such as museums, rare book stores, data centres, cold stores, warehouses, data and film archives etc. and is completely safe for occupied spaces.
The cost incurred to shut down a production line due to a fire can exceed the cost of the actual fire damage. With dry chemical fire suppression systems, fires in process equipment can be rapidly detected, extinguished and production resumed.

Depending on the nature of the equipment under protection, dry chemical systems can be activated manually or automatically using fusible links or heat and smoke detectors.

Dry Chemical powder is an extremely effective fire fighting agent that suppresses fire by inhibiting the chain reaction of combustion and coating the surface of the burning material. The coating separates the fuel from the oxygen supply, and prevents re-flash. Typical hazards protected include dip tanks, flammable liquid storage areas, mechanical rooms, exhaust ducts, quench tanks and coating equipment.

Contemporary commercial cooking environments requiring the use of healthier vegetable oils with lower auto ignition temperatures coupled with highly insulated, slow-cooling appliances, have increased the difficulty of extinguishing fires in kitchens.

Water Mist and Wet Chemical fire suppression systems have been designed to protect commercial kitchens and exhaust hoods from the dangers of fire. A self-contained restaurant fire suppression system incorporates discharge nozzles over the appliance and along the entire length of the kitchen hood.

Heat detection devices located behind filters, run the entire length of the hood and activate automatically at a pre-determined temperature. These systems are fully automatic and require no power to operate and protect the hood 24 hours a day.

KITCHEN PROTECTION

Dry Chemical

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Heat detection devices located behind filters, run the entire length of the hood and activate automatically at a pre-determined temperature. These systems are fully automatic and require no power to operate and protect the hood 24 hours a day.

Dry Chemical

The cost incurred to shut down a production line due to a fire can exceed the cost of the actual fire damage. With dry chemical fire suppression systems, fires in process equipment can be rapidly detected, extinguished and production resumed.

Depending on the nature of the equipment under protection, dry chemical systems can be activated manually or automatically using fusible links or heat and smoke detectors.

Dry Chemical powder is an extremely effective fire fighting agent that suppresses fire by inhibiting the chain reaction of combustion and coating the surface of the burning material. The coating separates the fuel from the oxygen supply, and prevents re-flash. Typical hazards protected include dip tanks, flammable liquid storage areas, mechanical rooms, exhaust ducts, quench tanks and coating equipment.
VEHICLE PROTECTION

Fires have the potential to occur in just about every type of vehicle engine compartment ranging from a below engine pool fire to a pressurised hydraulic line spray fire or combination thereof. Engine compartments contain a variety of potential ignition sources from electrical to superheated engine surfaces. Additionally, an engine compartment suppression agent must also be capable of dealing with suppression in turbulent conditions. It is critical that these fires be detected and suppressed rapidly to minimise property loss and potentially human lives. CrossFire, the new technically advanced ACAF single-agent dual-action CAF - CAF mist suppression system has been developed and designed to perform this task.

To enhance the fire suppression capability of the two individual agents, a single control device delivers both CAF and CAF mist to the fire through separate nozzles that are positioned to deliver foam and foam mist in one integrated stream. The combination of the two sprays with one agent strengthens the suppression capabilities of both components into the creation of a single more effective suppression system. This, in tandem with state of the art system components and fire detection make for a highly advanced, very effective fire suppression system. The CrossFire system is designed as a compact self-contained, stored energy system. As most vehicles have limited storage space and capacity, the system is developed and designed to minimise equipment installation and storage space while utilising environmentally friendly, fluorine free, foam concentrate.

COMPRESSED AIR FOAM

Compressed Air Foam Automatic Fire Suppression Systems (CAFS), are proven to effectively suppress flammable liquid fires in commercial, industrial and hazardous environments. They are engineered to meet and exceed the most stringent industry standards. CAFS systems perform when and where they are needed!

At the heart of each ACAF® system is our world renowned, Compressed Air Foam Generator. This generator creates a unique, non-toxic, biodegradable foam, from a foam-water solution. Pressurised Nitrogen is used to create the compressed air foam (CAF) and to power the system.

Our specially designed and patented valve assembly creates the CAF upon activation and maintains control of the system. The result is an expanded foam material that consists of small uniform bubbles. ACAF® pre-engineered fire suppression systems are made up of single or multiple CAF generator assemblies. This factory built assembly is sized to the number of nozzles it may supply. Larger hazardous areas can be protected by combining multiple CAF generators. CAF generators may be supplied by pressure tanks for self-contained supply systems or a foam proportioner for a fixed water supply system.

These types of foam fire suppression systems are particularly suited to deluge type systems protecting machinery and pumps, aircraft hangars, heliports, rim seal protection of floating roof tanks etc.
There may be significant differences in size and usage but all marine vessels, boats and offshore oil rigs have one thing in common, an absolute commitment to avoiding a fire on board.

The obvious implications of a fire at sea, coupled with highly flammable materials and compact spaces, mean even small fires can be dangerous. The proximity of the galley and the engine compartment to passengers and crew requires dedicated marine fire suppression systems that can automatically suppress offshore fires in an instant.

Fire Protection Technologies offer a wide range of fire detection and suppression systems that are specifically designed and approved to prevent catastrophic fire aboard marine vessels.

These systems range from wet chemical and water mist systems to protect the galley to various gaseous and water mist systems to protect engine spaces, as well as specific systems to protect control rooms, communications centres and the like. These fire suppression systems are complemented by a wide range of state-of-the-art fire detection systems to ensure rapid detection and suppression of fires.

Some of the biggest safety challenges facing the operation of refineries or petro-chemical facilities are controlling toxic or corrosive vapour cloud releases, suppression of hydrocarbon fires, and the protection and cooling of structures or other exposures. Manual and remote controlled monitor (water cannon) systems provide a solution by using directed, large flow streams. There are many benefits to installing these systems in your petro-chemical facilities.

These advantages include:
- Remote controlled monitors allow fires or vapor releases to be managed from a safe distance; minimising exposure to personnel
- Gets water on the fire immediately
- Reduced staffing in plants due to advanced automation results in fewer employees available for the fire brigades

With years of experience designing, engineering and manufacturing fire fighting and vapor mitigation systems for industrial applications, we understand the challenges faced in petro-chemical environments. Our specialised monitors flow up to 7,500 lpm and produce a wide range of stream patterns for maximum coverage.
Of course, with such an extensive product range, we need to provide a comprehensive service and support capability. At Fire Protection Technologies, we offer a comprehensive range of services including enclosure integrity fan testing, hydrostatic pressure testing of cylinders and pipework, suppression system inspection and testing as well as a national emergency breakdown service. In addition, we offer a foam concentrate testing service to check for deterioration over time.

We are able to recharge all types of extinguishing system containers including those of other manufacturers. Training is another aspect of our business that we take extremely seriously. We carry out specialised, hands-on training for all our products at our Melbourne Head Office. This ensures that our customers are as well trained in the use and servicing of our products as we are.

The level of technical support available on our products is second to none as we have product specialists in our offices throughout Australia, New Zealand and South East Asia.
Our highly trained engineering team are capable of providing a full range of services extending from simple product advice right through to detailed system design and engineering, including hydraulic analysis and risk assessment. We are capable of providing a fire or explosion protection solution for practically any fire or explosion hazard.

In addition, our experienced project management team provides a turnkey solution on those projects that require installation, project management, commissioning and ongoing maintenance services.

Our services include:
- Design Services
- Design Drawings
- Project Documentation
- Project Management
- Cost Analysis
- System Hydraulics

“All systems are specifically engineered to suit the particular situation”

At Fire Protection Technologies we understand the difficulties that often arise during system commissioning and routine maintenance. That’s why our engineering staff are always available to assist with any query. We are able to help throughout Australasia with specific product queries, on-site commissioning assistance, system design analysis and design verification.

Our services include:
- Design Verification
- Commissioning
- Hazard / Risk Analysis
- Product After Sales Service
- Field Support

“Our engineering staff are always available to assist with any query”

Component testing and verification are vital in order to confirm a fire protection system’s ability to operate and perform as originally designed. We are able to test and verify everything from manifolds and piping systems, extinguishing agent storage containers to foam concentrate compliance and explosibility characteristics. That’s why our comprehensive testing services are highly sought after within the Fire Protection Industry. In addition, we provide regular inspection services for all types of Special Hazard Fire Protection systems.

Other services include:
- Hydrostatic Pressure Testing
- System Recharging / Reinstatement
- Enclosure Integrity Testing
- Integrity Testing Equipment Calibration
- Foam Concentrate Testing
- Explosibility Testing
- Maintenance Services
- Training
- De-Commissioning
- Pipe & Fittings

“Our trained personnel can service and test to confirm compliance and provide peace of mind”
PRODUCTS:

**Gaseous Suppression**
- Inert Gas (IG-01, IG-55, IG-100, IG-541)
- Novec 1230™ Fluid (FK-5-1-12)
- FM-200® / NAF S 227 (HFC-227ea.)
- Ecaro 125® / NAF S 125 (HFC-125)
- Carbon Dioxide (CO₂)
- Hybrid Systems (N₂ / Water)
- Pressure Relief Vents
- Enclosure Integrity Testing Equipment
- Pipe & Fittings

**Water Suppression**
- Water Mist - High Pressure
- Water Mist - Intermediate Pressure
- Water Mist - Low Pressure
- Hybrid Systems (Water / N₂)
- Monitors & Delivery Systems
- High Speed Deluge

**Foam Suppression**
- Foam Concentrates
- Foam Proportioning
- Foam Delivery Systems
- Foam Concentrate Testing

**Explosion Protection**
- Explosion Suppression
- Explosion Isolation
- Explosion Vents & Pressure Relief
- Spark Suppression
- Explosibility Testing

**Fire Detection**
- Linear Heat Detection - Digital
- Linear Heat Detection - Fibre Optic
- Linear Heat Detection - Micro Chip
- Flame Detection
- Video Imaging Detection
- Spark Detection
- Control & Indicating Equipment
- Thermal Imaging Detection
- Aspirating Smoke Detection

**Military & Defence**
- Military Vehicles
- Naval Vessels

**Special Applications**
- Micro Environment
- Oxygen Reduction
- Kitchen Protection Systems
- Dry Chemical
- Vehicle Systems
- Compressed Air Foam
- Marine & Offshore
- Vapour Mitigation

**Support Services**
- Design / Engineering
- Technical Support
- Services & Testing