



CV

COMPLETE EXPLOSION
PROTECTION SOLUTIONS

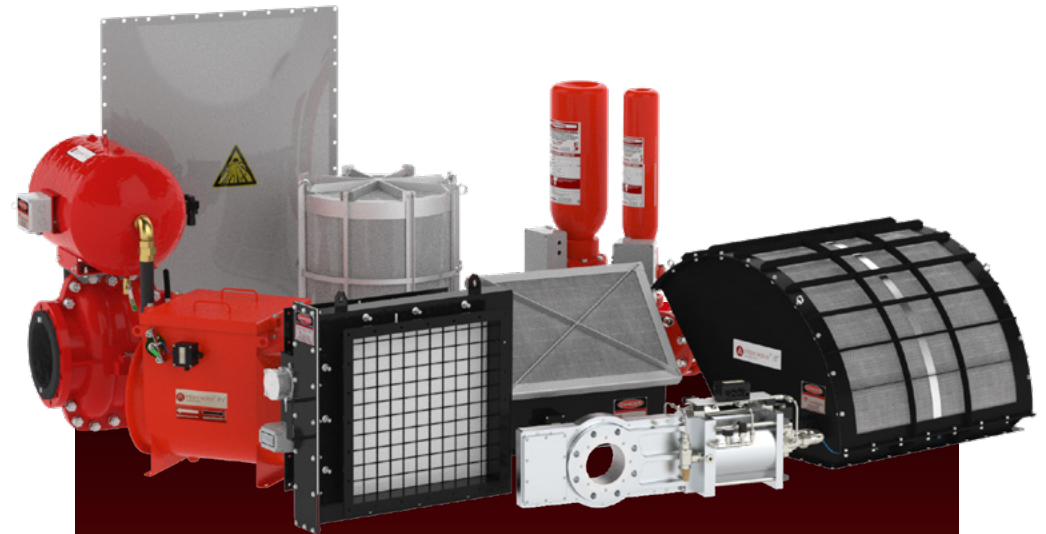
ABOUT US

When we first opened our doors in 1994, CV Technology® had a simple vision to provide a passive means of protecting against combustible dust explosions. Today, CV Technology® is a global market leader in the field of fire and explosion protection. We've become the most trusted name in combustible dust safety due to our superior solutions, outstanding support, and customized approach.

We offer a wide range of explosion protection solutions, from explosion vents, flameless vents, chemical suppression, and explosion isolations. Our products conform with ISO 9001:2015 and are 3rd party, independently tested and approved. When you contact us, you'll be guided by our team of multi-disciplined engineers to a custom engineered solution to protect your people and process. We are set apart not only due to our superior solutions and incredible service, but also boast a cost-saving benefit. Easier to install, lower maintenance needs, and lower costs offer additional reasons to choose CV Technology® as your partner in explosion protection.

Our fire protection system offers the most advanced technology in the world, allowing you to have complete control over your safety standards. With infrared technology, resilient to daylight, you will avoid false positive responses from our spark detection systems. Using our control system, you are able to remotely monitor multiple gas detection, spark detection, and quick suppression systems across your facility using a touchscreen intelligent operator.

CV Technology's® unique approach has led to an unblemished safety record and is why we have become the safety vendor of choice for a wide variety of Fortune 500 companies. With experience across a wide variety of industries, from food and grain, dairy, chemical, to biomass, we hope you'll contact one of our engineers to discuss how we ensure you are free from the dangerous of combustible dust fires and explosions.



Global Leader in Fire & Explosion Protection Design

We are true partners with you, ensuring your people and process are protected.

GLOBAL LEADERS

Discover why CV Technology is the global leader in protecting people, processes, and plants from combustible dust hazards.

Equipped with a team of engineers, researchers, and application specialists we have the expertise, experience, and superior products to safely protect nearly any processing facility from combustible dust hazards.

To achieve maximum protection against combustible dust explosions, having great products isn't always enough. Equipment also must be precisely installed and proactively serviced under NFPA guidelines. We pride ourselves in our custom engineered solutions, support, and unparalleled advanced technology.

1 Multi-Discipline Engineers to Serve You

CV Technology is an active committee member of the National Fire Protection Association (NFPA) Standards for combustible dust. Our multi-disciplined engineers know why combustible dust explosions happen, and we know how to mitigate the damage and propagation of deflagrations. Call our team of engineers for a facility walk-through, combustible dust test, and a dust hazard analysis

2 World-Class Comprehensive Solutions

Following your DHA and facility walk through, we'll offer you a robust informative plan to guide you on becoming up-to-date with the latest codes, and NFPA standards. We'll also recommended explosion protection solutions to best mitigate the hazard.

3 Dedicated and Committed Support Team

Our engineering, manufacturing, and system integration capabilities allow us to custom tailor each safety solution specific to the operation's conditions. Our technical support team is superior in expertise, training, and availability to help.



We are Your Partner

Since 1994 we've devoted ourselves to creating the best solutions to protect you, your people, and your process.



We Listen and Innovate

We custom designing protection solutions based on our client's needs rather than trying to implement one product into all applications.



We Offer Personalized Recommendations

We recommend what is right, not necessarily what is easy.

Global Leader in Fire & Explosion Protection

**We Provide Engineered Fire
& Explosion Protection Safety**
Products that Protect People and
Processes from Combustible Dust
Explosions and Fires.



**PROTECT
YOUR PEOPLE
& PROCESS
WITH OUR
CUSTOM
ENGINEERED
SOLUTIONS**

Any Industry. Any Process | Regardless of your industry, we have the solution to protect your process.

INDUSTRIES

Due to that nature of the material handled as well as the previous mentioned reduction process, these industries are especially vulnerable to combustible dust fires and explosions: food, plastics, wood, rubber, furniture, textiles, pesticides, pharmaceuticals, grain, pet food, biomass, dairy, pulp, and paper.

A combustible dust explosion hazard may exist in a variety of industries. Dust explosion hazards may occur in any industrial process that reduces a combustible material, and some normally noncombustible materials, to a finely divided state. The process presents a potential for a serious fire or explosion. Regardless of your industry, CV Technology has the products, expertise and experience to produce the most reliable solution possible for nearly any application.



Materials of Concern

A wide variety of materials that can be explosive in dust form exist in many industries.

Examples of these materials include: food (e.g., candy, sugar, spice, starch, flour, feed), grain, tobacco, plastics, wood, paper, pulp, rubber, pesticides, pharmaceuticals, dyes, coal, metals (e.g., aluminum, chromium, iron, magnesium, and zinc).

DUST EXPLOSIONS

Combustible dusts are fine particles that present an explosion hazard when suspended in air under certain conditions. A dust explosion can cause catastrophic loss of life, injuries, and destruction of buildings.

Of the hundreds of combustible dust incidents that have occurred over the last decade, in many of these incidents, workers and managers were unaware of the potential for dust explosions, or failed to recognize the serious nature of dust explosion hazards.

A fire needs three elements to exist: fuel to burn, oxygen, and an ignition source, such as heat or a spark. A dust explosion requires two additional items, the dispersion of dust particles in the right concentration and the confinement of the dust cloud. Dispersion, dust particles suspended in air, and confinement, dust enclosed in a space, allow pressure to build and explosions to occur. Dust testing and a dust hazard analysis is the first step towards identifying and safeguarding against combustible dust hazards.

HOW DO YOU KNOW IF YOUR DUST IS COMBUSTIBLE?

Many businesses that handle dusts don't even know if they are combustible. We offer comprehensive dust testing services to confirm the explosibility characteristics of a variety of dusts and help guide you through the next steps you'll need to take to assess your hazards.

Contact our team at
(561) 694-9588 or
sales@cvtechnology.com

SECONDARY EVENT

When combustible dust ignites, there are often two explosions known as primary and secondary explosions.

CATASTROPHIC SECONDARY EXPLOSIONS

When combustible dust ignites, there are often two explosions known as primary and secondary explosions.

The primary dust explosion is the first explosion. It occurs when there is a dust suspension in a confined space (such as a container, room, or piece of equipment) that is ignited and explodes.

The primary explosion will shake other dust that has accumulated. Secondary explosion can also happen between vessels in pipelines. When this dust becomes airborne, it also ignites. This secondary dust explosion is often more destructive than the primary one.

A combustible dust explosion, or deflagration, is an “ordinary” fire such as a gas stove, burning wood or paper, and even the burning of gasoline vapor inside the cylinder of an automobile. In a deflagration, a burning substance releases heat, hot gases, and energetic particles or sparks that spread the fire.

In a deflagration, a burning substance releases heat, hot gases, and energetic particles or sparks that ignite and spread the fire. In a dust explosion, the deflagration process happens so rapidly that the heated air and gaseous fire products (such as carbon dioxide) produce extreme air pressure that can blow out walls and destroy structures.



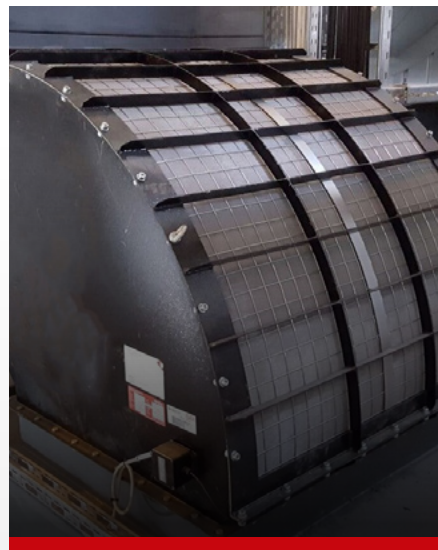
EXPLOSION PROTECTION SOLUTIONS



Explosion Venting

Protect Equipment from Dust Explosions

Protect equipment from combustible dust explosions by providing a planned pathway for flames and pressure wave to escape.



Flameless Explosion Venting

Passive Indoor Venting

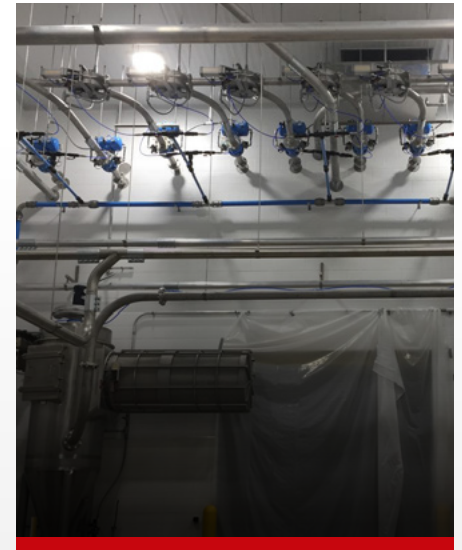
Flameless vents provide the ultimate passive solution for applications when explosion venting is not possible.



Chemical Suppression

Prevent Initial and Secondary Explosions

Chemically suppress an explosion in its earliest stages to prevent both the initial and secondary explosions.



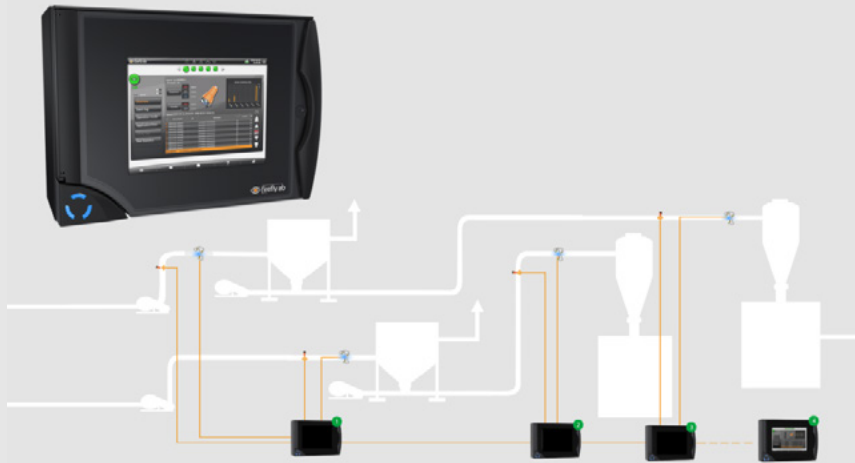
Explosion Isolation

Fast-Acting Isolation Solutions

Prevent the propagation and strengthening of flame from one part of the system to another.

PREVENTION

The Intelligent Fire Prevention Platform that Integrates with Your Production Process



Firefly EXIMIO™

The modular and decentralized system architecture gives you great flexibility. It is simple, cost effective, and easy to install. The system is modular and decentralized, giving you the power to remotely control and monitor your production process.

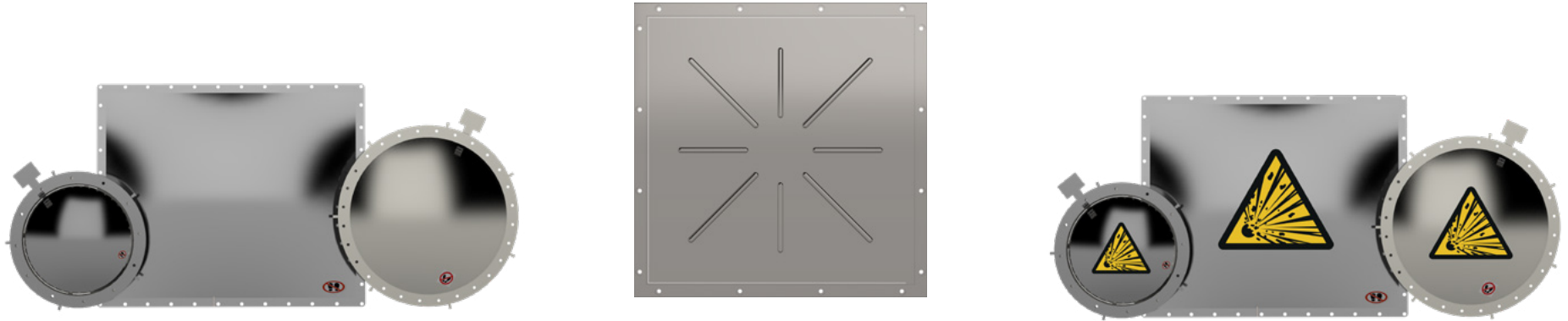


Prevention and Fire Protection Systems

IntuVision™

The unique and modern touch screen interface ensures quick and easy access to all system functions. It gives you a clear status view of connected equipment of the fire protection system. IntuVision™ gives you graphs and reports on analyzed data for further insights enabling you to take informed decisions about your production process.

EXPLOSION VENTS



TLST Explosion Vents

USDA Composite Explosion Vents

The ultimate sanitary design, the TLST explosion vent is USDA Dairy certified model for use any food or dairy applications.

SLFG Explosion Vents

Single Layer Explosion Vents

An economical explosion vent, the SLFG provides the most cost effective solution for explosion venting.

TLFG Explosion Vents

Composite Food Grade Vents

A versatile explosion vent design, the TLFG is specially designed to handle any application or process. The composite, domed vent construction provides high vacuum resistance and high-pressure cycling resistance.

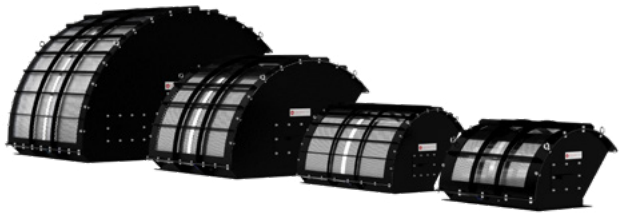


Explosion Vents Provide a Reliable & Economical Solution for Explosion Protection

A simple solution for explosion protection, explosion vents both relieve the pressure and exhaust flame during a deflagration. The burst pressure can be custom designed to handle different process parameters. Integration with flameless vents or vent ducts allows them to be used indoors or outdoors in occupied area.



FLAMELESS VENTS



Interceptor®-LT®

Economic Flameless Venting

Designed as an economical solution for flameless venting the Interceptor®-LT® features a painted carbon steel frame with stainless steel mesh insert. The rectangular cross section with a curved flameless surface allows for maximum vent area and sleek installation.

Interceptor®-EV®

Composite Food Grade Vents

Designed with a slim, elongated profile this flameless vent is ideal for bucket elevators and conveyors where installation locations are limited. The compact, lighter design allows for easier handling and installation. Features include an access door for inspection, the ability to service in the field, and burst indication for remote monitoring.

Interceptor®-QR®

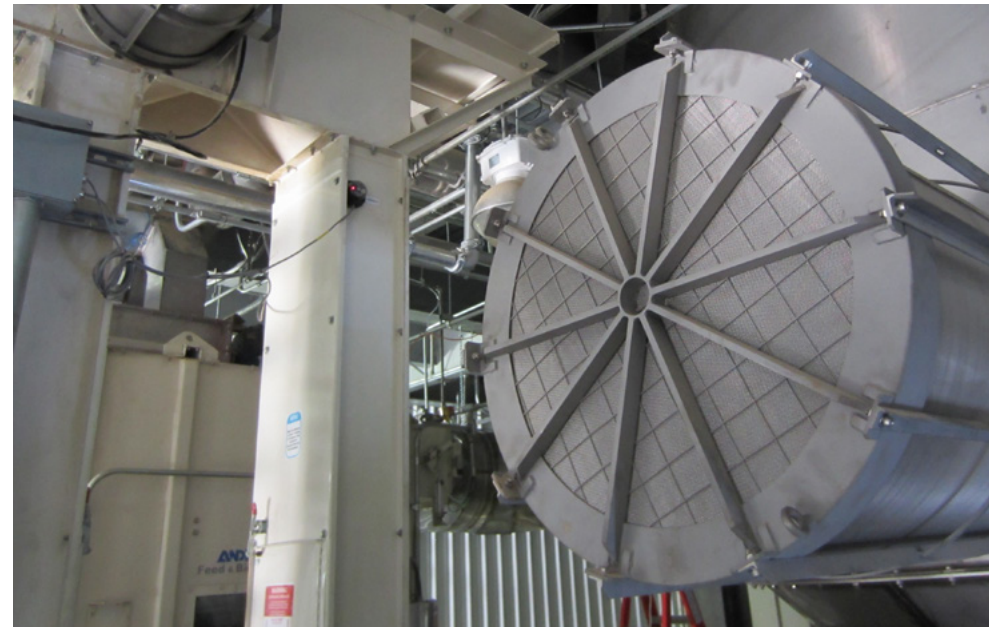
Economic Flameless Venting

The Interceptor®-QR® is a NFPA compliant and FM Approved flameless venting device. Often referred to as a quench tube, the Interceptor®-QR® offers the advantage of optimum venting efficiency to handle any application or dust.



Flameless vents provide the ultimate passive solution for applications when explosion venting is not possible.

Whether a vessel is located indoors or outdoors in an occupied area, flameless venting can be used to provide explosion protection without the need to worry about the flame exhaust or pressure effects. Flameless vents are a truly passive solution with no contamination effects on the process they protect.



CHEMICAL SUPPRESSION



CONEX® Controller

Intelligent Control System

The most advanced chemical suppression system controller provides a user interface and computing power to monitor sensors and activate suppression bottles. Programmed with state-of-the-art software the CONEX® is a quick and reliable hub for the HRD suppression system.

Interceptor®- HRD

High Rate Discharge Suppression

The Interceptor®-HRD bottles are NFPA compliant High Rate Discharge suppression bottles. These suppression bottles contain pressurized Nitrogen and dry chemical suppressant to suppress a deflagration as it develops. A variety of sizes and nozzle designs, including USDA certified options, allow the HRD suppression bottles to be used on any application.

Detex® & Lumex® Detectors

Intelligent Pressure Detection

A truly intelligent pressure detector the Detex® is "smart" sensor that monitors both the static and dynamic pressure in a protected vessel. The Lumex® is ideal for explosion isolation detection in pipelines and suppression detection in vessels with elevated pressures.

Timeline of Physics at Work



0 ms

Ignition occurs and the deflagration begins to develop inside the volume.



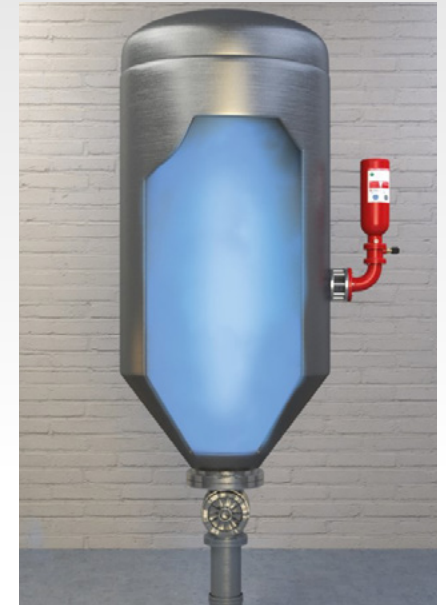
20 ms

The Detex Pressure Detector senses the developing deflagration and signals to the CONEX control system.



40 ms

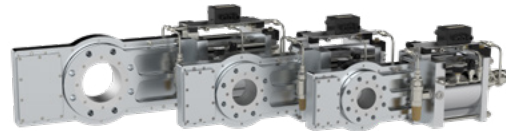
Suppressant is delivered via a High Rate Discharge propellant of pressurized Nitrogen



60 ms

The deflagration is fully suppressed as a homogenous amount of suppressant fills the volume.

EXPLOSION ISOLATION



Interceptor®-VE®

Explosion Isolation Pinch Valve

The Interceptor®-VE® is a NFPA 69 compliant isolation pinch valve. The Interceptor®-VE® valve is normally open. Upon receiving a signal from either a pressure responder or an optical sensor the Interceptor®-VE® controller is designed to immediately signal the Interceptor®-VE® valve.

Interceptor®-SG®

Explosion Isolation Slide Gate Valve

The Interceptor®-SG® explosion isolation valve is designed to prevent explosion propagation from one vessel to another through interconnected piping. The explosion isolation slide gate is a compliant solution for both NFPA 69 and FM 7-76.

Interceptor®-FV®

Explosion Isolation Flap Valve

The Interceptor®-FV® is a NFPA 69 compliant passive flap style isolation valve. When a dust explosion begins to propagate down a pipeline the flap valve automatically closes from the pressure of the explosion. The flap valve remains shut and is designed to prevent any flame from further propagation.



Explosion Vents Provide a Reliable & Economical Solution for Explosion Protection

A simple solution for explosion protection, explosion vents both relieve the pressure and exhaust flame during a deflagration. The burst pressure can be custom designed to handle different process parameters. Integration with flameless vents or vent ducts allows them to be used indoors or outdoors in occupied area.



EXPLOSION ISOLATION



Interceptor®- Ventex®

The Interceptor®-Ventex® is a NFPA 69 compliant passive float valve designed for explosion isolation. The valve is designed to operate by closing when the pressure wave of the explosion slams and locks the valve shut.

The valve can be configured for use as a single acting or double acting arrangement. Double acting valves are able to isolate in both directions. All Ventex® valves can be configured to isolate in the same or opposite direction of the process airflow. Vertical and horizontal valves can be built to allow for flexibility on the installation location

Interceptor®- QV®

The Interceptor®-QV® is a new patented explosion isolation device built with the principles of flameless venting.

A stainless steel mesh cartridge in the center of the device works to stop a deflagration. If a deflagration propagates through the clean return line it will make contact with the mesh cartridge. The cartridge removes energy from the flame front of the deflagration as it passes through the torturous path of the mesh, forcing the flame to transfer its energy to the high surface area of the mesh, thereby quenching the deflagration and not allowing any flame to pass beyond the Interceptor®-QV®

Interceptor®- HRD Isolation

The Interceptor®-HRD system is an NFPA compliant High Rate Discharge chemical isolation solution. These suppression bottles contain pressurized Nitrogen and dry chemical suppressant to suppress a deflagration as it develops. A variety of sizes and nozzle designs, including USDA certified options, allow the HRD isolation bottles to be used on any application.

The HRD isolation system can be triggered by pressure detection or optical detection. Suppression bottles offer the ability to be used on ductwork in any shape or size for all applications and processes.

PREVENTION AND FIRE PROTECTION



Spark Detection

Infrared Spark Detection

Spark detection systems can save industries from costly fires and dust explosions. By combining advanced infrared detectors with intelligent controls the Eximio system offers premium safety solution that minimizes false alarms and keeps you in production.

Quick Suppression System

Water Mist Fire Protection

The purpose of the Quick Suppression System to act quickly enough to avoid or significantly reduce damage and production downtime. They are also designed to prevent fires from escalating and spreading into other areas.

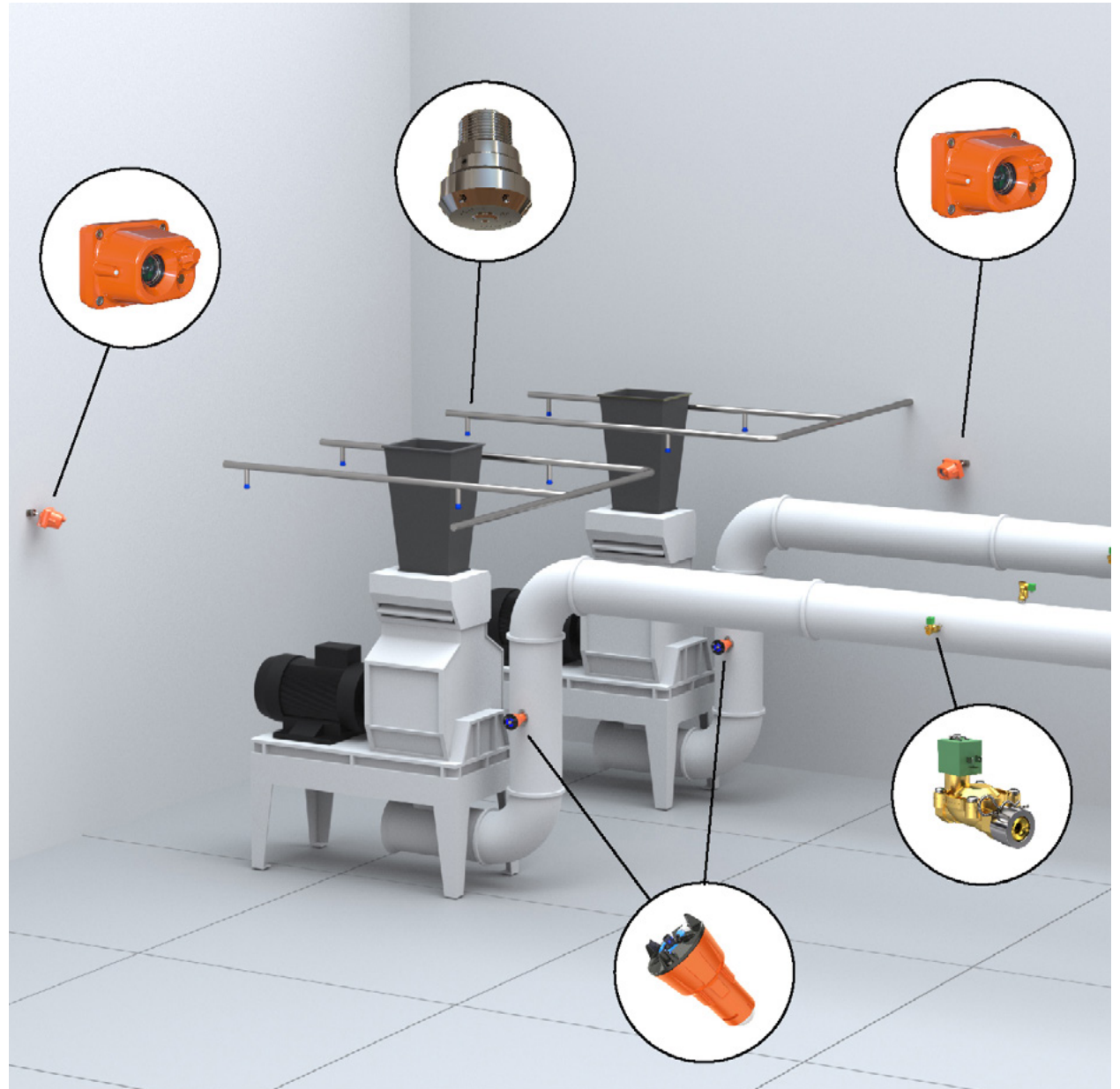
Multi Gas Detection

Early Detection

MGD technology, originally developed for aerospace, is based on the detection of fire related gases. The MGD-detector can be described as an "electronic nose." Through intelligent analysis of several different gas combinations, the detector can identify fire at a very early stage.

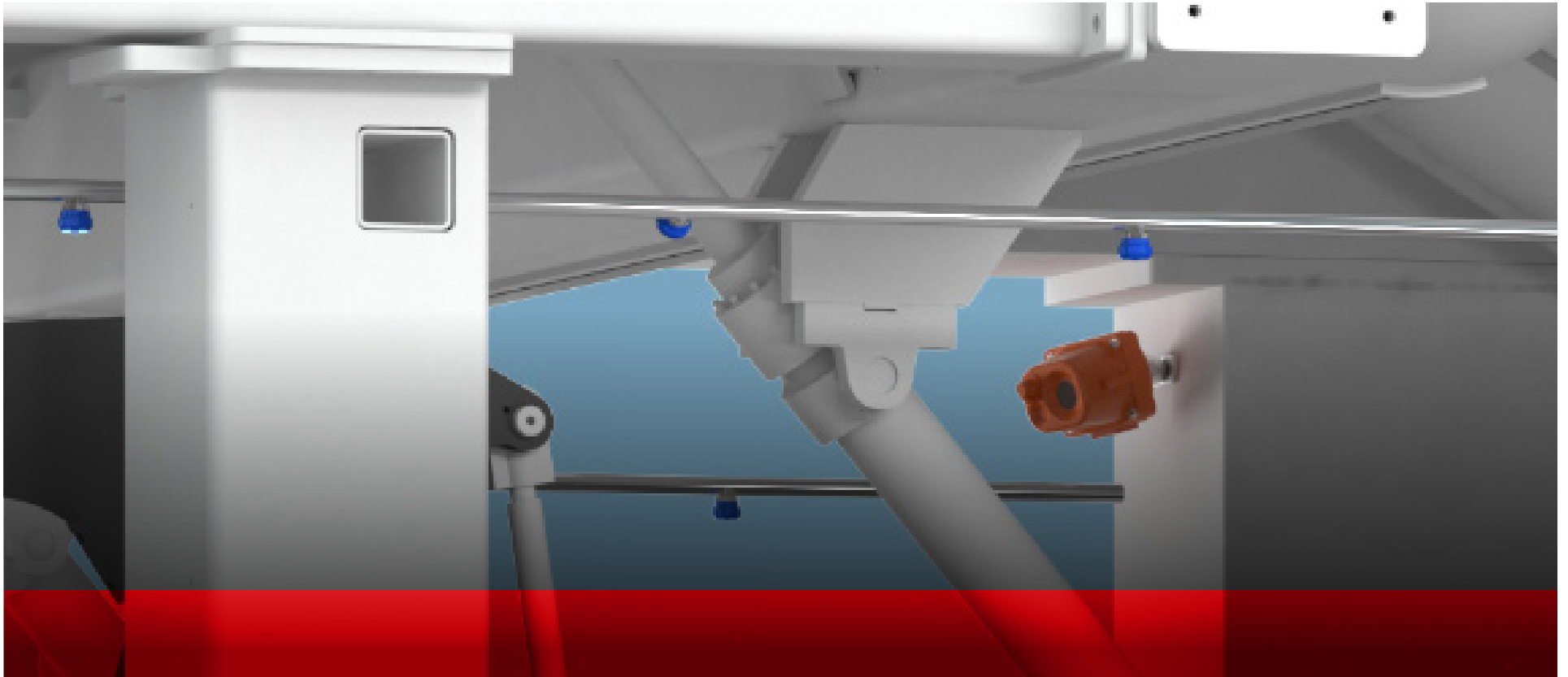
Eximio Spark Detection and Quick Suppression Systems. Is a Pioneering Solution for Fire Protection

For over 20 years CV Technology has partnered with Firefly AB to integrate superior fire protection systems with our world class explosion protection solutions. The goal to provide our customers with complete explosion protection solutions.



QUICK SUPPRESSION SYSTEM

The purpose of the Quick Suppression System to act quickly enough to avoid or significantly reduce damage and production downtime. They are also designed to prevent fires from escalating and spreading into other areas.



Advanced Algorithms for Precision Detection | Spark Detectors that are Insensitive to Daylight

TRUE IR SPARK DETECTORS

The True IR Spark detectors enable Precision Detection of ALL types of ignition sources such as hot black particles, glowing embers and sparks.



WWW.CVTECHNOLOGY.COM



SINGLE SOURCE PROVIDER

**Protect Your People & Process with our
Complete Fire & Explosion Protection Solutions**

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