



**fire protection**  
TECHNOLOGIES



GASEOUS  
SUPPRESSION



WATER  
SUPPRESSION



FOAM  
SUPPRESSION



EXPLOSION  
PROTECTION



FIRE  
DETECTION



MILITARY  
& DEFENCE



SPECIAL  
APPLICATIONS



SUPPORT  
SERVICES

# Why **RISK** a dust **EXPLOSION?**

 **FLAMEX<sup>®</sup> INC.**

SPARK DETECTION AND  
EXTINGUISHING SYSTEM

# The Problem



**“If combustible dusts  
are collected,  
there is a fire  
and explosion hazard  
in the collector,  
regardless of bag construction.”**  
- Factory Mutual Engineering and Research

## **THE PROBLEM**

If your company utilizes pneumatic conveying and air filtration systems in the manufacturing process, you are at risk for the hazards resulting from dust fires and explosions. The industries at highest risk employ drying, cutting, grinding, sanding and other abrasive processes where sparks and even fires are generated.

## **IT CAN HAPPEN IN A MATTER OF SECONDS**

The normal operation of many production machines can easily produce a spark. It is then picked up by the pneumatic system and transported along with highly combustible wood chips, dust or other finely divided particles. If that spark reaches the collector or storage bin, an explosion or fire is almost a certainty.

Even one such event can result in damages ranging from costly repairs and down time to loss of plant facilities or even worse... an expensive price to pay for something that can be readily avoided.

# The Solution

**"Ducts conveying dry material released by equipment having a high frequency of generated sparks shall be..."**

**(1) Equipped with a listed spark detection and extinguishing system installed downstream from the last material entry point and upstream of any collection equipment..."**

- NFPA 664 8.2.2.2.2 2007 Edition

A potential disaster of this magnitude is best handled with preventative measures that are immediate, effective and reliable. The Flamex® system detects and extinguishes a spark in an average of less than 3/10 of a second... well before it reaches a filter or collection bin. This may be the quickest pay-back you'll ever receive on a business investment.

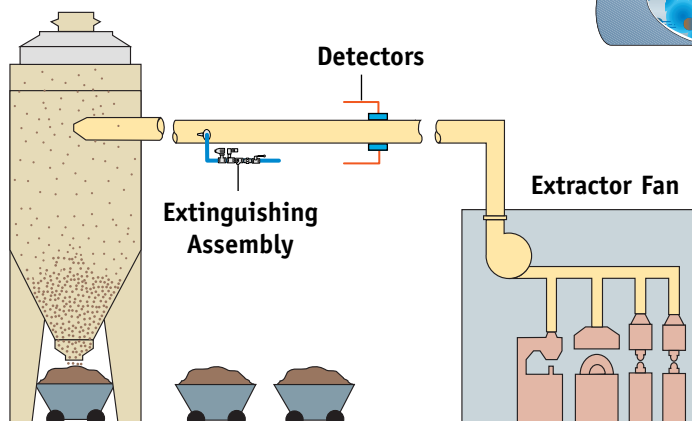
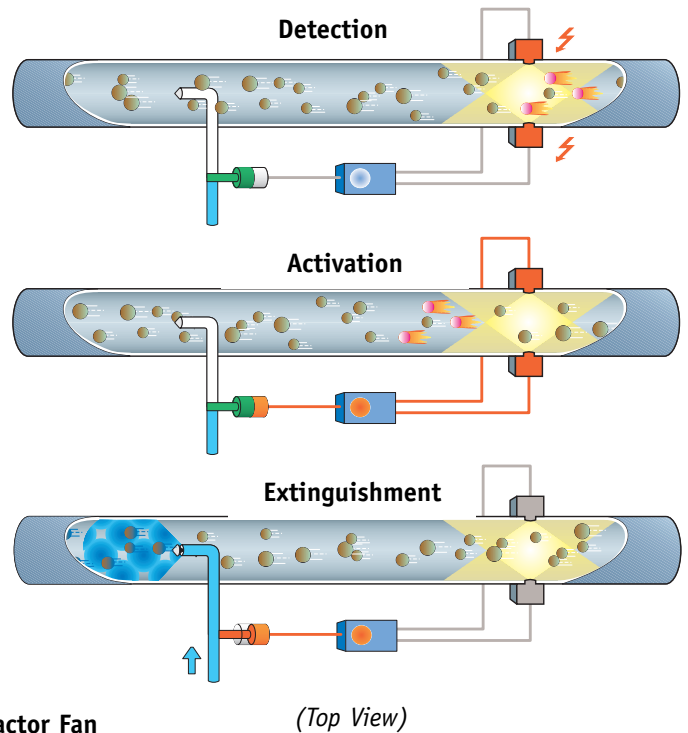
## HERE'S HOW IT WORKS

As a spark travels through the duct work of your collection system, it is instantly identified by the Flamex infrared detectors flush mounted to the blow pipe. The system initiates water-flow through strategically placed nozzles to establish an instantaneous wall of water inside the duct, effectively extinguishing the sparks or embers. The system automatically resets itself with no down time or messy clean-up.

Each Flamex system is carefully constructed of the finest and most durable materials available. Additionally, we provide alternative detectors and extinguishing agents when necessary to tailor your system to meet the specific needs of the working environment.



Flamex Infrared Detectors Mounted to Duct Wall



## FLAMEX CONTROL CONSOLES

Flamex® control panels are engineered with the latest technological features including an audible and visual alarm, 24-hour minimum battery back-up, power status indicator, and internal supervision for both detector and valve circuitry.

Additionally, every Flamex control panel comes with auxiliary relays which can enhance plant safety by allowing automatic equipment shut down, activation of remote alarms, dampers or high speed abort gates.

### FMZ 4100 GAB 6

2 zone capacity microprocessor based panel. 17"W x 11"H x 6"D



### FMZ 5000 MOD 4

4 zone capacity modular designed control panel. 19"W x 12"H x 8"D

### FLE 3000

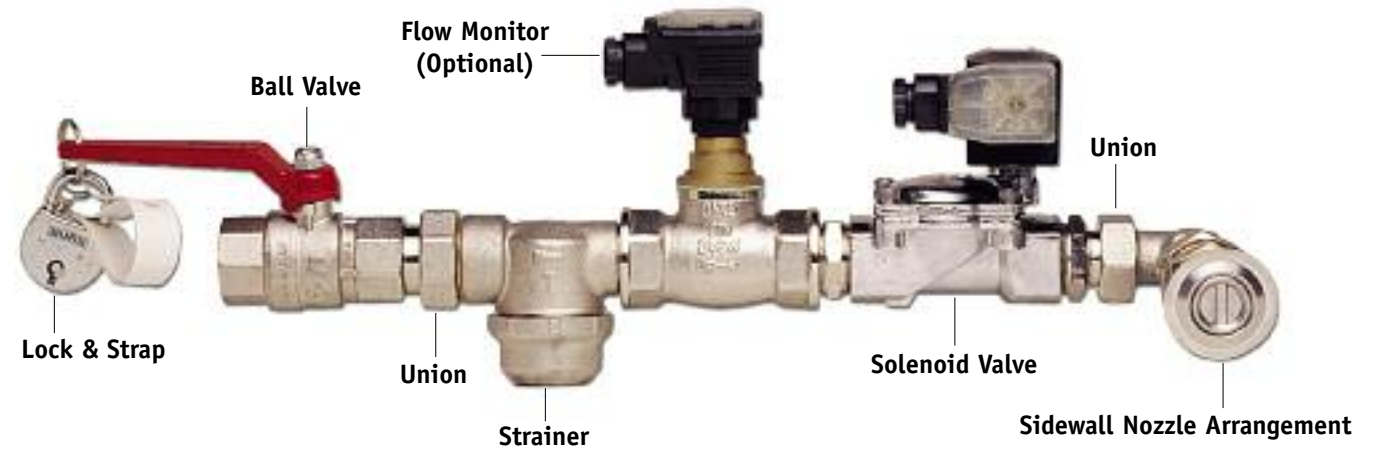
Single zone control panel. 12"W x 9"H x 6"D



### FMZ 5000 MOD 12

12 zone capacity modular designed control panel. 24"W x 24"H x 9"D

## Flamex Extinguishing Assembly



### Superior Nozzle Design

Exclusively with FLAMEX! The Flamex stainless steel, sidewall nozzle mounts flush with the inside wall of your duct and produces a solid wall of water which effectively covers the entire cross section of the duct.



## FLAMEX EXTINGUISHING DEVICES

Our versatile extinguishing sets are engineered for immediate and reliable response. Designed to provide only the minimal amount of water for proper extinguishment. Spray sets are available with either a sidewall or interior nozzle arrangement that provides maximum effectiveness for your specific application.

# Flamex® Components

## FLAMEX DETECTORS

These highly advanced, infrared detectors are engineered for the immediate identification of sparks or flames in industrial environments. "Daylight" spark detectors are also available for applications where ambient light is present.

### OPTECTOR® FUX 3001-E

Infrared spark detector used in ambient temperature applications.



### FUX 3001 L-1

Fiber optic probe allows the detector housing to remain in cooler ambient temperatures while providing detection for applications where the operating temperature in the duct exceeds 175°F.



Optional Air Purge Fittings are available for use with compressed air to help keep the detector lenses clean in particularly difficult applications.

### Additional System Compatible Detectors

The system can also utilize heat, flame, smoke and other detectors to provide more comprehensive facility protection.



## High Speed Abort Gates

Used to divert the airflow out of the pneumatic system upon detection of sparks or flames upstream of the gate. May help the user comply with NFPA 664 and 654.



### Event Printer

Provides a permanent record of all system activity. A remote printer is compatible with most FLAMEX control panels.



## Alarm Devices

Remote alarm horns and strobe lights can be used with the Flamex to annunciate system activity. Available in 24VDC and 120VAC.



## FLAMEX ACCESSORIES

We offer a wide variety of accessories that allow us to facilitate system testing, enhance monitoring and supervisory capabilities while tailoring the system to best fit the individual needs of your company.

### Flow Monitor

Indicates actual water flow through the Flamex solenoid valve.



### 90 GPM Booster Pump

Increases extinguishing water pressure in those facilities where available pressure is insufficient.



### External Test Light System

Simulates spark activity from an external source to allow the testing of each zone of detectors from the control panel location.



"A fire hazard shall be deemed to exist  
in the system wherever dry wood particulate  
is collected or conveyed..."

- NFPA 664 8.2.1.4 2007 Edition

# The Logical Choice



Originally developed by a dedicated group of engineers who recognized the hazards created by dust collection and air filtration systems, Flamex is the world's premier spark detection and extinguishing system. It is also the first system of its kind to earn Factory Mutual A approval. The Flamex has been the recipient of the woodworking industry's prestigious Challenger Award and is entering its fourth decade of proven explosion and fire prevention.

Flamex Inc. is the exclusive North American distributor for the system and has provided thousands of installations across the Western Hemisphere with safe, reliable and efficient fire prevention. These facilities represent a wide variety of industries that require pneumatic conveying of dust and other combustibles.

## EXCELLENCE IN MANUFACTURING

Every Flamex system is built to the industry's highest standards by our parent company, Minimax GmbH & Co. KG. Located in Bad Oldesloe, Germany, Minimax has obtained ISO 9001 certification and maintains a rigorous quality control standard to ensure our customers that their Flamex system is both durable and reliable.



## EXPERIENCE WHERE IT COUNTS

Our staff of highly trained and well-seasoned professionals has taken the product through five generations of developmental improvement and is uniquely qualified to assess your facility and consult with you on a recommended course of action. If it is determined that our system is the best solution, we will customize Flamex to fit smoothly into your work environment in the most unobtrusive and cost effective manner. As your company grows, the Flamex system can be easily modified to grow with you.

## SERVICE AFTER THE SALE

Our support doesn't stop after your Flamex system has been installed. We provide a fully staffed maintenance department with experienced technicians to assist you with any maintenance inspections, repairs or modifications that may be required. Our location in Greensboro, North Carolina boasts a large inventory of spare parts, which can be shipped to you with same day service in many cases. We also offer a complete electronics repair facility with services that are competitively priced. For more information on how a Flamex system can help provide you with a safer more cost effective work place, please contact us at the address below.



1978 Challenger  
Award Recipient

 **FLAMEX**<sup>®</sup> INC.

**Factory  
Mutual  
System**  
Approved



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