

THE PACESETTER IN  
EXPLOSION SAFETY  
INNOVATION

EXPLOSION PROTECTION

SOLUTIONS YOU CAN

COUNT ON WORLDWIDE.



# APPLICATIONS / INDUSTRIES

In today's competitive business world, making sure your production process continues to work smoothly is crucial to your company's bottom line. We know safety is no accident. Our simple, reliable explosion protection solutions fit your growing safety needs. That's why you can rely on Fike. With over 60 years of field experience and a team of in-house engineers, application specialists, and combustion researchers, we understand plant processes, relevant code compliance, and the critical nature of continued plant operation. We stand behind our products with a commitment to quality, full-scale explosion testing capabilities and explosion expertise.



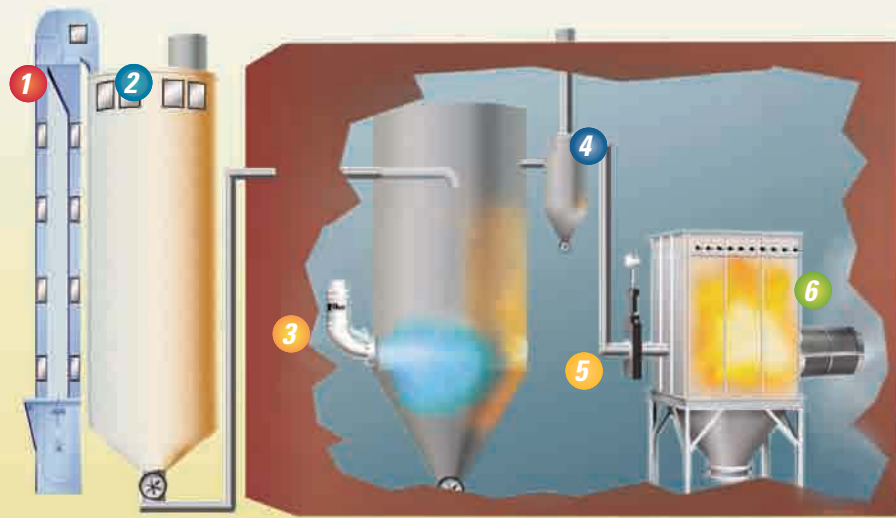
*Explosion protection is the best solution to avoiding costly disasters.*

Fike complies with or is approved by global third party approval agencies, including:

- ISO 9001 and EN29001
- ATEX Directive 94/9/EC
- NFPA 68 and 69
- Factory Mutual
- Canadian Standards Association
- CE
- PED and SIL(Safety Integrity Level)

This combined with full-scale explosion testing capabilities for all products and patented technology, lends strength and confidence to Fike's explosion protection solutions.

## FIKE EXPLOSION PROTECTION SOLUTIONS AT WORK



*Fike is a uniquely qualified provider for total explosion protection solutions —*

- 1** *A bucket elevator is protected by Fike's Eleguard® vent panels.*
- 2** *Fike vent panels protect a grain silo.*
- 3** *Fike system disperses suppressant to extinguish a dryer explosion.*
- 4** *A cyclone is protected by a ducted explosion vent and accompanying weather cover.*
- 5** *Fike's high speed explosion isolation valves and/or chemical barrier system prevent explosion propagation through fuel laden pipes.*
- 6** *FlamQuench II™ protects dust collector located inside the building, without expensive ductwork.*

AUTO COATINGS  
VENTILATION



CHEMICALS &  
PLASTICS



FOOD



PAINTS &  
PIGMENTS



PHARMACEUTICAL



POWER



WASTE



WOOD &  
PAPER



OTHER



## MATERIALS AND APPLICATION TESTING

Explosion testing provides a basis for safe plant design, operating parameters, and handling procedures. Fike's state-of-the-art testing laboratory offers a wide range of standard and customized explosibility tests designed to assist companies in identifying and mitigating costly explosion hazards.

- Screening for explosibility
- OSHA NEP testing
- Explosibility parameters of  $P_{MAX}$  and  $K_{ST}/K_G$
- Explosibility limits; Minimum Explosible Concentration, Limiting Oxygen Concentration, Lower and Upper Flammability Limits
- Ignition limits; Minimum Ignition Energy, Minimum Ignition Temperature (dust layer), Minimum Autoignition Temperature (dust cloud)
- Accommodation of a wide variety of fuels and oxidants
- Capable of testing at elevated temperature and pressure
- ASTM and CEN standards

## CUSTOM TESTING CAPABILITY

Fike is fully equipped to perform customer application and equipment tests, specifically designed for the customer's unique industrial environment.

- Interconnected vessel and isolation test equipment
- Can accommodate gas/vapor, dust, and hybrid fuels
- Multi-channel high-speed data acquisition systems,

instrumentation, and high-speed digital video available for capturing the physical characteristics of each event

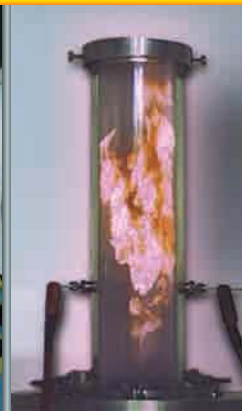
In addition, Fike's knowledgeable scientists, engineers, and technicians are available to assist in the development and completion of your test plan. When our customers need to test a complicated application regarding their safety and protection equipment, Fike has the facilities and expertise to perform standard and non-standard explosibility tests.



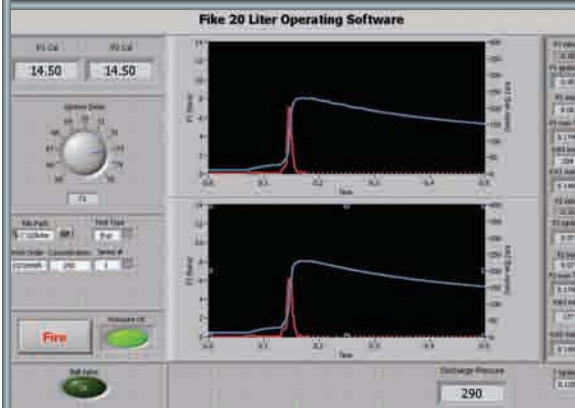
**20-Liter Vessel – Used for  $K_{ST}$  and  $P_{MAX}$  determination**



**Standard ISO 1m<sup>3</sup> vessel for  $K_{ST}$  and  $P_{MAX}$  determination**



**Minimum Ignition Energy (MIE) test of Coal Dust**



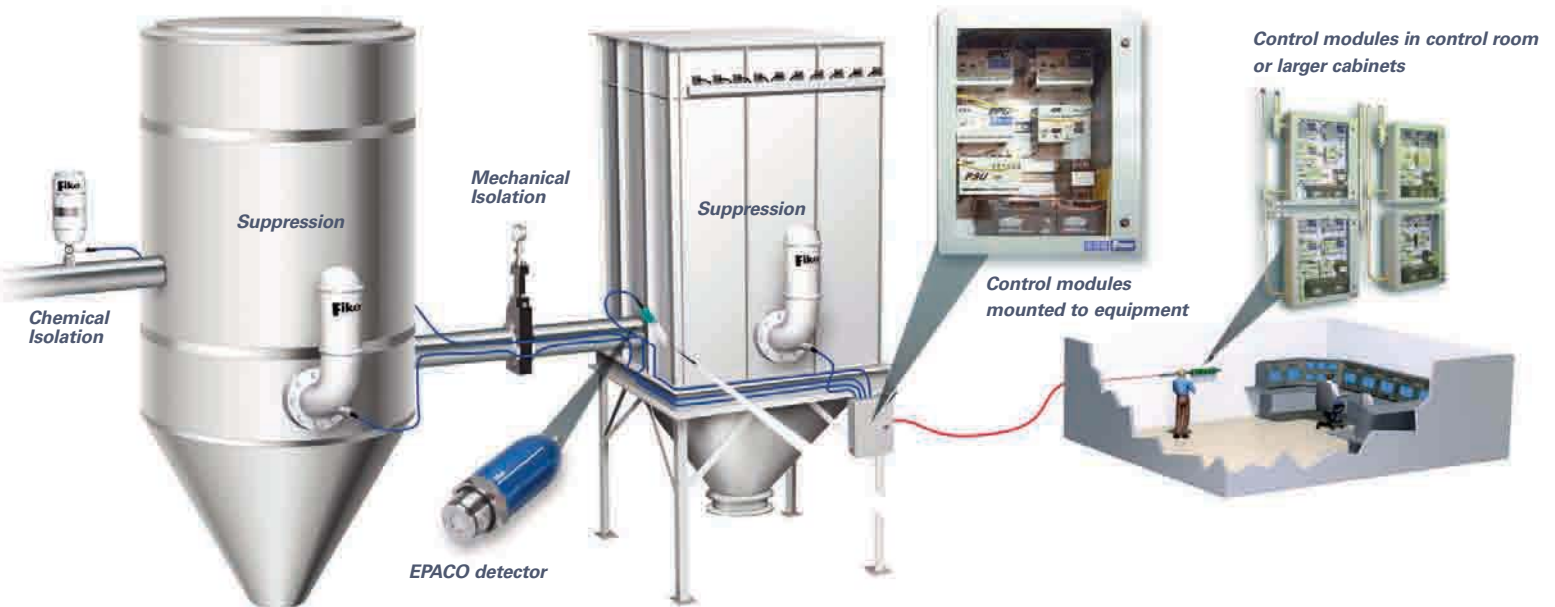
**20L data acquisition and control system**

**Fike's Large Scale Combustion Testing Facility is used for research, data collection, validation and testing of safety protection equipment.**





GET UNPARALLELED EXPLOSION PROTECTION CONTROL, MONITORING, AND REPORTING WITH FIKE'S EPACO® CONTROL SYSTEM.



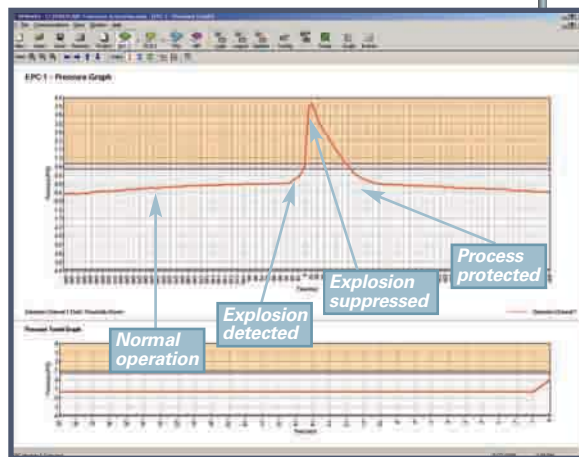
The EPACO detection and control system interfaces with Fike's Suppression and Isolation systems to provide the best explosion protection, which can be customized to accommodate your plant's process conditions. The EPACO system offers enhanced system stability and scalable design, minimizing shutdowns, reducing costs, and delivering unparalleled explosion protection. FM, ATEX, CSA, and CE approved.

EPACO features the most technologically advanced software available in explosion protection, providing you with both pre and post activation history and detailed report functionality to help you track, react and plan more effectively.

Fike's exclusive **EPWorks™**

software reports –

- system status
- pressure readings
- pre and post system activation history for greater diagnostic capability



The EPACO bus technology –

- communicates system status
- activates system protection
- allows for remote access

Refine and further integrate your EPACO explosion protection system with optional expansion modules. Let Fike assist you in configuring a technical solution that not only protects, but compliments your facility – using the modules that fit your needs/applications.

**FIKE'S INNOVATIVE SYSTEM GIVES YOU CONTROL OF YOUR BUSINESS AND CONFIDENCE IN YOUR PROTECTION.**

# EXPLOSION SUPPRESSION

Fike is the leader in suppressing all classes of dust, gas, and hybrid explosion hazards. Fike's innovative actuators release suppressant agents without an explosive charge and have a 10-year shelf life.

Patented container and nozzle designs minimize flow restrictions, extinguishing the explosion faster, minimizing pressure build-up inside process equipment. The simple design of the suppression container has no moving parts or wear points, for greater explosion protection reliability. Options are available for a variety of agents and special sanitary applications.

**FM and ATEX approved**  
**Complies with NFPA 69 standards**

*An optimum explosion suppression system must quickly deliver a properly distributed and sufficient amount of suppressant agent into the explosion to stop its further development.*



*A suppression sequence utilizing the Fike HRD occurs in fractions of a second.*



*HRD suppression containers provide fast reaction time*

*Simple container design for greater reliability and leak free operation*



*Fike MicroMist system*

*Fike CO<sub>2</sub> fire suppression systems are effective in protecting a variety of industrial processes*

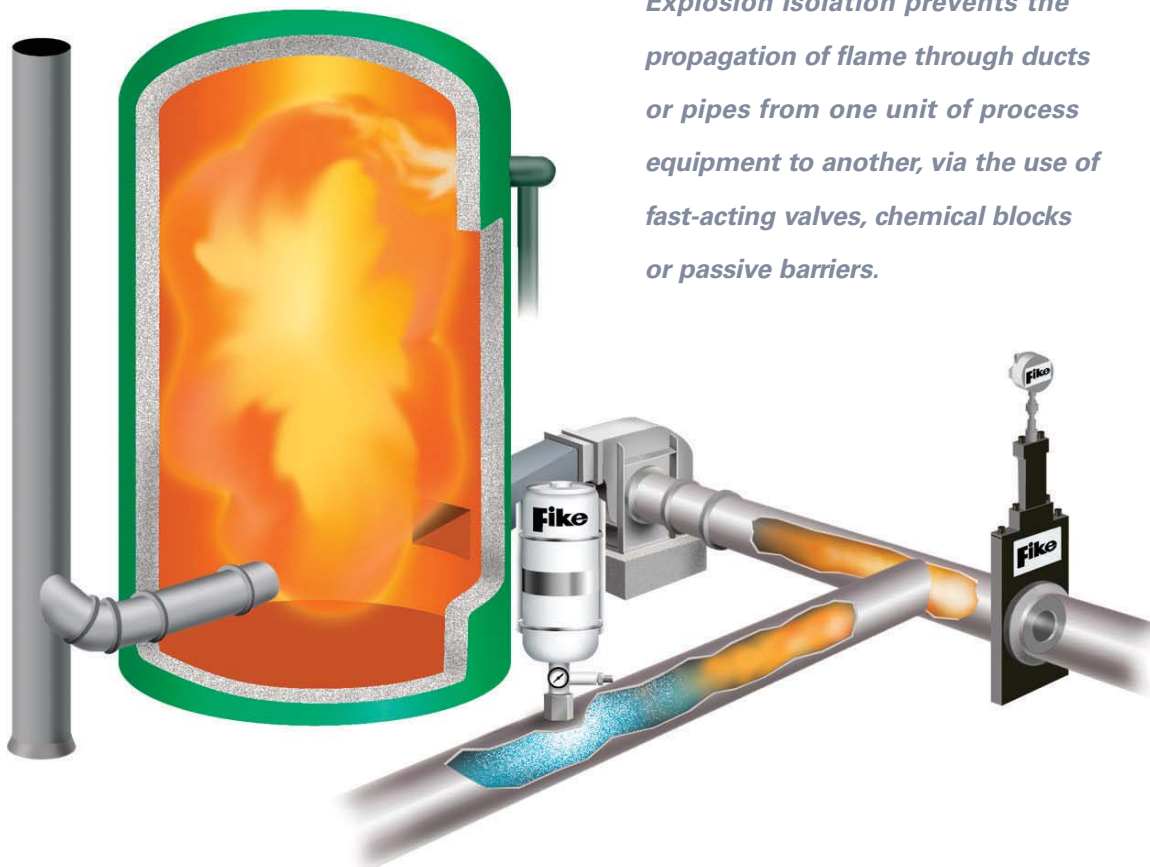
## TOTAL INDUSTRIAL PROTECTION

Water mist and CO<sub>2</sub> fire suppression systems are also available to protect your plant from fires. The Fike MicroMist® system is a self-contained, single-fluid, pre-engineered water mist fire suppression alternative to many traditional fire protection methods. This water mist system is cost effective and easy to install. Fike CO<sub>2</sub> fire protection systems are available for use in total flooding or local fire protection applications.

WORLDWIDE ACCESS

WHEN YOU NEED IT

# EXPLOSION ISOLATION



*Explosion Isolation prevents the propagation of flame through ducts or pipes from one unit of process equipment to another, via the use of fast-acting valves, chemical blocks or passive barriers.*



*Chemical Isolation*



*Mechanical Isolation Valve*

## Prevent the spread of an explosion with —

- **Mechanical isolation**, which provides a physical barrier against flame and pressure propagation through process piping or ductwork.
- **Chemical isolation**, stops flame propagation by injection of a chemical extinguishing agent into the ductwork.
- **Passive isolation**, provides a mechanical block in response to the pressure wave from an explosion

Protect against the highest classes of industrial explosion hazards with these bi-directional systems which isolate an explosion within milliseconds. And because they are field refurbishable, your **downtime is minimized.**

Sanitary packages are available. Chemical isolation is available with a variety of suppressant agent options.

**ATEX approved**



*Flow-Actuated Explosion Isolation Float Valve*

C O S T - E F F E C T I V E   A N D

E A S Y   T O   M A I N T A I N   S O L U T I O N S

Fike's innovative approach to venting and flameless venting solutions provides protection you can rely on. Through full-scale explosion testing and research, Fike has developed vents with optimal relief areas, the broadest range of sizes, and certified burst pressures. Innovative features like integrated frames, specialty materials, protective covers, and other options are available. Burst Indication provides facility-wide monitoring to instantly alert your staff of an incident or failure. With Fike's full complement of passive explosion protection, your plant stays up and running.



*FlamQuench II flameless venting protects indoor dust collector.*



*For indoor venting, or where flameless venting is required, Fike offers several other models to suit your application.*



## Flex-V<sup>®</sup> Fire Limiting Explosion Vent

The Flex-V is a high performance explosion protection device. Unlike traditional venting, the Flex-V panel returns to its original position at the end of the venting process, re-covering about 90% of the vent relief area. This unique engineering breakthrough offers significant benefits over non-reclosing vents, for many industrial applications:



- Space is re-confined, allowing more efficient use of fire-fighting agents, such as watermist and clean agent systems.
- No loss of venting efficiency.
- Can open inward, offering protection against vessel collapse due to vacuum pressure.



Fike's exclusive vent stocking program provides quick delivery on a wide selection of premium quality explosion vents at significantly reduced costs. Go to [www.fike.com](http://www.fike.com) for free downloadable vent CAD mounting details. NFPA/EN/VDI compliant sizing available through Fike.



*Non-fragmenting at higher  $K_{ST}$  with addition of High Integrity upgrade*

*When you combine our wealth of experience with our reputation for breakthrough solutions in explosion protection, Fike adds up to the right choice every time.*

## EQUIPMENT APPLICATIONS

Dust Collectors  
Precipitators  
Cyclones  
Hoppers  
Conveying Systems  
Bucket Elevators  
Blowers  
Pumps  
Pulverizers  
Grinders  
Dryers  
Oxidizers  
Polishers  
Screeners  
Mixers  
Silos  
Storage Bins/Tanks



## FIKE GLOBAL MANUFACTURING, SALES AND SERVICE

### AMERICAS

#### FIKE CORPORATION

Blue Springs, MO USA  
Tel: +1-816-229-3405  
Email: [fmprsales@fike.com](mailto:fmprsales@fike.com)

#### FIKE CANADA

Burlington, Canada  
Tel: +1-905-681-3100  
Email: [fikecanada@fike.com](mailto:fikecanada@fike.com)

#### FIKE LATINA LTDA

Jundiai, Brazil  
Tel: +55-11-4525-5900  
Email: [vendas@fike.com.br](mailto:vendas@fike.com.br)

### ASIA

#### FIKE ASIA PACIFIC SDN BHD

Selangor Darul Ehsan, Malaysia  
Tel: +60-3-7859-1462  
Email: [fikeap@fike.com](mailto:fikeap@fike.com)

#### FIKE JAPAN

Tokyo, Japan  
Tel: +81-335-951-291  
Email: [office@fikejapan.co.jp](mailto:office@fikejapan.co.jp)

#### FIKE INDIA PVT. LTD.

Pune, India  
Tel: +91-20-2439-1947  
Email: [sameerp@pn2.vsnl.net.in](mailto:sameerp@pn2.vsnl.net.in)

### EUROPE

#### FIKE EUROPE

Herentals, Belgium  
Tel: +32-14-210031  
E-mail: [fike-europe@fike.com](mailto:fike-europe@fike.com)

#### FIKE UNITED KINGDOM

Maidstone, Kent, United Kingdom  
Tel: +44-1-622-677081  
Email: [sales@fike.co.uk](mailto:sales@fike.co.uk)

#### FIKE FRANCE

Cergy Pontoise Cedex, France  
Tel: +33-1-30-31-31-32  
Email: [contact@fike.fr](mailto:contact@fike.fr)

#### FIKE DEUTSCHLAND

Mannheim, Germany  
Tel: +49-621-321-67-0  
E-mail: [info@fike.de](mailto:info@fike.de)

#### FIKE ITALIA

Milano, Italy  
Tel: +39-02-2952-4166  
Email: [webmaster@fike.it](mailto:webmaster@fike.it)

#### FIKE IBERICA

Barcelona, Spain  
Tel: +34-93-6000-800  
Email: [fike@fike.es](mailto:fike@fike.es)



# Fike®

WWW.FIKE.COM

EPACO, EP Works, MicroMist, FlamQuench II, Flex V, Eleguard, Fike and Fike Corporation are trademarks or registered trademarks of Fike Corporation.

U.S. Patents including 4,662,126; 4,821,909; 6,070,365; 6,959,828; 7,017,767; 7,234,278; 5,105,370; 5,105,371; 5,107,446; 5,138,562; 5,199,500; 5,647,438; 5,718,294; 5,816,330; 6,031,462; 6,131,594; 6,540,029  
Additional foreign patents and U.S. patents pending.

© Copyright 2008, Fike Corporation. All rights reserved. Form No. B9106 0908 Printed in the U.S.A.