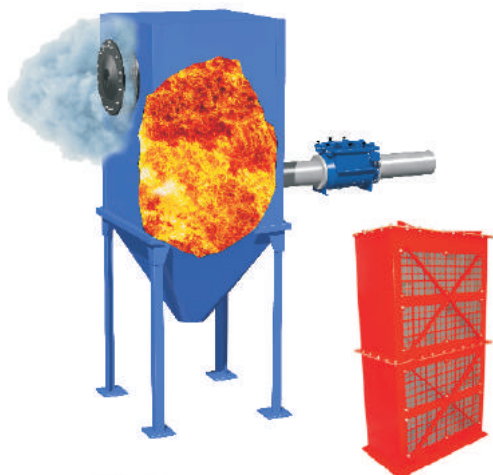


Since 1956, our company has been dedicated to enhancing safety in process industries. We are focused on protecting our customer's operations – including property, equipment and business continuity – against the threat of devastating explosions. We do this by offering innovative solutions to meet our customers' needs anywhere in the world. Then we back those solutions with the highest quality systems, parts and services to maximize the value of your IEP Technologies investment.

EXPLOSION VENTING SYSTEMS

Explosion venting entails the incorporation of a frangible panel or membrane into the top or side of process plant equipment so that the over pressure of an explosion is released into the atmosphere. Venting is a proven explosion protection strategy where it can be safely applied.

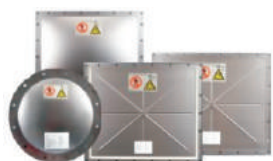


While venting is usually the most cost effective method of explosion protection, there are circumstances where venting is impractical and explosion suppression a preferable option.

Since the goal of explosion venting is to release the explosion over pressure before the process vessel is damaged, burnt and unburnt dusts and vapors are released through the vent opening. The ejected fireball, with a typical volume eight times or more larger than the vessel volume, must be released to a safe area. It is important to note that since explosion venting only relieves the deflagration pressures from the vented process vessel, post-explosion fires are to be expected. Appropriate fire control measures should be incorporated into the process plant safety design.



EXL Flameless Vent



Explosion Relief Vents

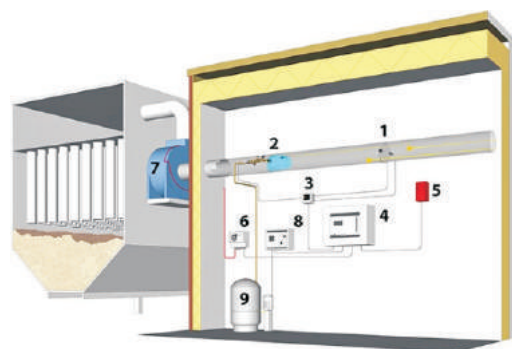
ADVANCED SPARK DETECTION TECHNOLOGY – ATEXON V300EX

Spark Detection Solutions - Superior technology and quality combined with years of experience The Atexon Spark Detection and Extinguishing solution by IEP Technologies is a leading protection option developed in Finland. Atexon-brand spark detection and suppression systems have provided protection for over 2,000 industrial processes covering many different industrial sectors that routinely handle explosible dust or powders.



PRINCIPLE OF THE SPARK DETECTION

- The spark detectors respond to ignition sources within milliseconds.
- The extinguishing unit extinguishes sparks and embers with a small amount of water.
- The signal router guides and monitors the extinguishing event.
- The VR18Z control panel monitors the whole system and gives audible and visual alarms.
- The fan controller stops the blowers in case of overheating or a spark shower.
- The overheat sensing cable monitors the fan bearings and the casing.
- The pressure booster controller guides the water pump and the heat tracing cables.
- The pressure booster provides the extinguishing water at the correct pressure without any air pockets.



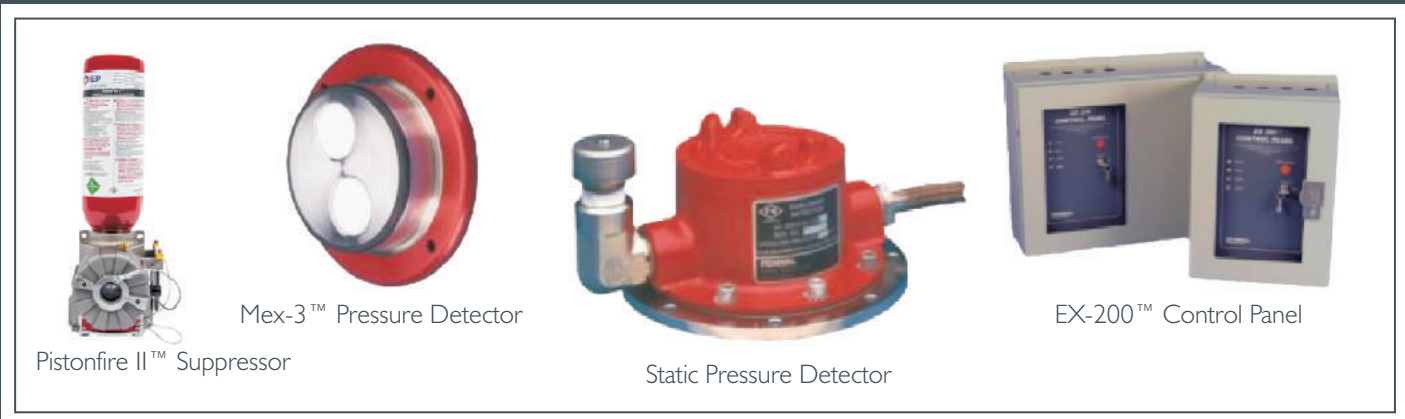
EXPLOSION SUPPRESSION SYSTEMS

An explosion suppression system consists of three components: a (i) detector; (ii) control unit; and (iii) suppressor(s). In the event an ignition occurs, the fireball expands from the ignition kernel with the pressure wave (created by the increase in temperature) traveling ahead of the flame front. Explosion pressure detectors are configured to respond to the characteristic pressure increase within milliseconds.

The explosion suppression control unit receives the detection signal from the pressure sensors and sends a release signal to the explosion suppressor(s). Suppressant is injected into the protected vessel at high rate and high velocity, using specially designed nozzles to disperse the suppressant and engulf the growing fireball. This rapidly cools the fireball, mitigating further combustion and reducing the explosion pressure. Integral to the design of most explosion suppression system is a chemical or mechanical explosion isolation systems to reduce the risk of flame/explosion propagation to other connected process equipment.



1. Protection Equipment
2. Control Panel
3. Pressure Detector
4. Explosion Suppressor



Pistonfire II™ Suppressor



Mex-3™ Pressure Detector



Static Pressure Detector



EX-200™ Control Panel

EXPLOSION ISOLATION SYSTEMS

Explosion isolation systems are designed to detect an explosion in a process vessel, and then create a barrier that reduces the risk of the flame/explosion propagation to other interconnected equipment. Such explosion propagation is likely to give rise to an enhanced (more intense) explosion in any connected vessel than would be expected from a simple ignition in that vessel. Explosion isolation is a proven method of reducing the risk of such enhanced explosions, and may be an essential requirement to attain a sufficient risk reduction from the overall explosion protection system.

Explosion isolation can be applied to vessels that are protected by containment, suppression or venting systems. There are three basic types of explosion isolation systems:

- Chemical Isolation • Active Mechanical Isolation • Passive Mechanical Isolation



IsoFlap™ Passive Isolation Valve



Ventex Passive Isolation Valve



Infrared Detector



Single/Dual Exit Isolation Head



High-Speed Isolation Valve



No.232, 10th Main, 100 Feet Road, Opp. State Bank of India, HRBR Layout 1st Block,
Kalyan Nagar P.O, Bangalore 560043, India.

Email: info@aksharatek.in, Web: www.aksharatek.in

Tel: +91 80 4174 6003, Mob: +91 82966 69007