

Explosion Suppression Systems

The BS&B Type IPD* Explosion Suppression System provides protection of process enclosures where dust suspended in air represents an explosion hazard. The early stages of the pressure rise associated with a dust explosion are detected by the Unitized Sensor which is mounted to the equipment to be protected.

Superior by Design

- Low Mass/Low Pressure Compact
- On Site Refurbishment-no Hardware Exchange *
- Suppressant Energized Full Discharge
- Installs at Any Angle Flexibility
- Exempt from Use & Storage Licensing
- System Continuously Monitored
- Simple Routine Maintenance by User
- Clean Installation Flush Mounted
- * in typical service conditions

When at least two of three individual pressure sensors within the Unitized Sensor respond, an electrical signal activates the Explosion Suppression Cannon(s) installed on the equipment causing the pulverized suppression agent (food compatible sodium bicarbonate) to be energized & discharged from the front of the Cannon™ into the equipment. This extinguishes the early stages of combustion of the process material before it builds into a deflagration which can generate a pressure (Pmax) exceeding the strength of the process equipment.

A System Monitor provides electrical power to the Unitized Sensor & the Explosion Suppression Cannon(s) at intrinsically safe levels allowing use in Class I, II and III, Division 1, hazardous locations. External relays are activated that are to be used to shut down equipment to end the supply of combustible material and to generate an alarm.



The 4 modular components of the Type IPD Explosion Suppression System comprise (from left to right): the System Monitor, the explosion detection Unitized Sensor, the explosion suppression Cannon,™

and the Power Supply. Depending upon the application, the capacity of the explosion suppression Cannon™ is selected from standard modules.

US and International patents pending.

Typical Application of BS&B Type IPD® Suppression Technology to a Dust Collector



Explosion Suppression
Cannon mounted at Dust
Collector inlet prevents
flames from expanding
upstream.

Unitized Sensor to detect initiation of explosion; pressure sensors are compensated for operation at negative pressure.

Explosion Suppression
Cannon™ protects Dust
Collector from overpressure
arising from an
uncontrolled deflagration.

BS&B Type IPD Explosion Suppression Systems are continuously protecting common industrial process equipment including:

- dust collectors
- dryers
- blenders
- grinders
- * silos

Industries using BS&B Type IPD equipment include:

- food processing
- grain and feeds
- pharmaceutical
- · chemical
- wood

Approvals

Certain IPD equipment is approved under technical standards written and managed by FM Global. The monitoring and firing circuits conform to FM3610, CSA 22.2 and EN50 014 and 020.

Service

The IPD service team is available 24/7 to support new system installation, on-site refurbishment of activated suppression systems and to conduct the periodic audits required by NFPA 69.

System Monitoring Unit mounts remotely and "watches" the system for activation and faults.





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