



BS&B PRESSURE SAFETY  
MANAGEMENT, L.L.C.

# Explosion Suppression Systems

IPD<sup>®</sup>

Catalog 77-8020

The BS&B Type IPD<sup>®</sup> 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 ( $P_{max}$ ) 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.



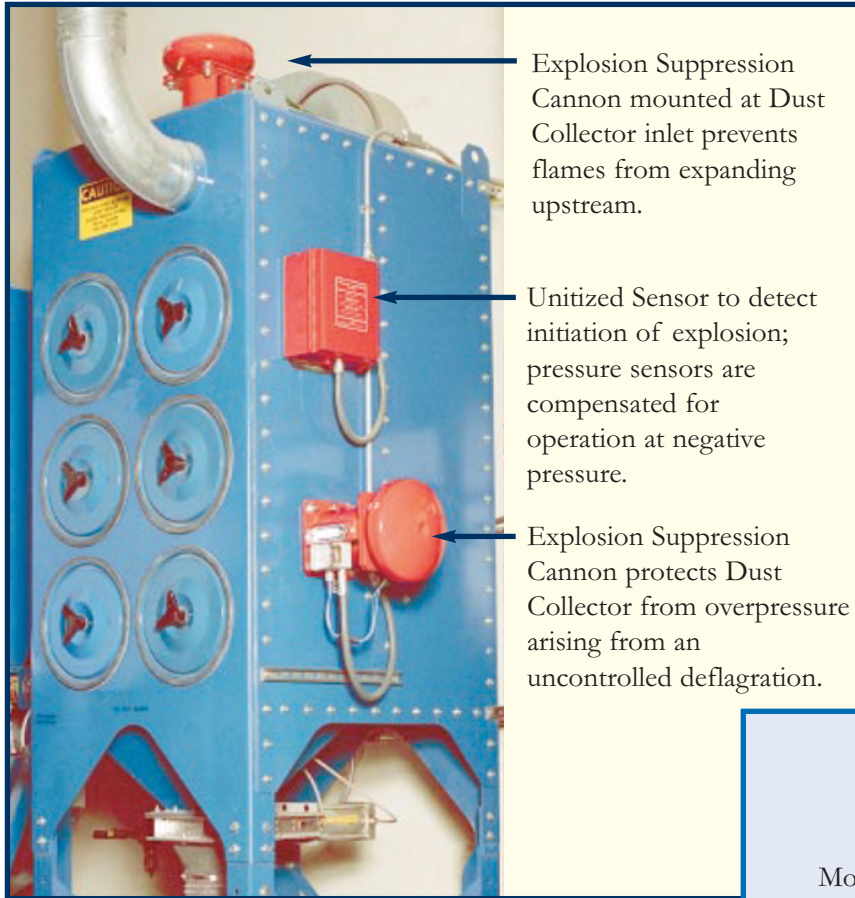
The 4 modular components of the Type IPD Explosion Suppression System comprise (from left to right): the System Monitor, the explosion detection Unitized Sensor, the explosion suppression Cannon,

and the Power Supply. Depending upon the application, the capacity of the explosion suppression Cannon is selected from standard modules identified as 5,10, 20, 40, & 60 lb. capacity - 5 lb. module shown.

*US Patent Numbers 5,198,611 & 5,934,381 and 6,269,746 apply.*

**Contact BS&B for more information regarding Explosion Suppression & Explosion Venting Technology!**

## 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.

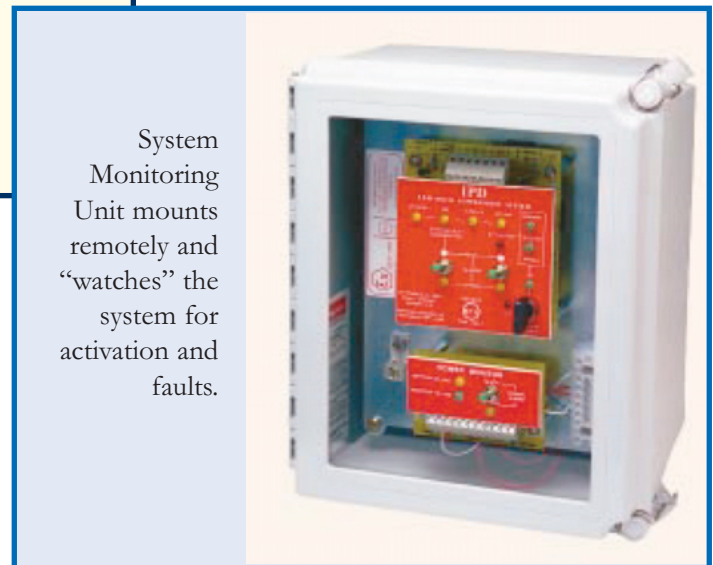
Explosion Suppression Cannon protects Dust Collector from overpressure arising from an uncontrolled deflagration.

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



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

### FM Approved

BS&B Type IPD Explosion Suppression Systems are FM approved for the protection of equipment handling dusts with a deflagration index of up to 200 bar m/sec.

The Monitoring and Firing circuits conform to FM3610, CSA 22.2 and EN50 014 & 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.



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Products, specifications and all data in this literature are subject to change without notice. Questions regarding product selection and specifications for specific applications should be directed to BS&B Pressure Safety Management, L.L.C.

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