

TECHNICAL DATA SHEET

T. ERNST EXPLOSIVE PROTECTION



INDUSTRY:

Baking, Grain, Chemicals, Pharma, Food Processing

PRODUCT CATEGORY:

Explosion Protection & Food Grade Fabrication

PRODUCT OVERVIEW

BULKMATIC SAFETY & SANITARY SYSTEMS

Explosion protection systems are designed to prevent and mitigate the impact of combustible dust and vapor explosions. They work by detecting ignition sources, stopping flame propagation, suppressing deflagration, and safely venting pressure. These systems protect people, equipment, and production environments by minimizing downtime, reducing damage, and maintaining safe operations. Typical solutions include suppression canisters, vent panels, spark detection, and isolation valves, all engineered for rapid response and reliable integration with industrial processes.



#1 EXPLOSION PROTECTION

Prevent and suppress combustible dust explosions.

UNIQUE FEATURES:

- Explosion vents and flameless venting
- High-speed suppression
- Isolation valves

BENEFITS:

- Prevents catastrophic events
- Worker and asset safety
- NFPA compliance

VENTING OPTIONS

Main Characteristics

01 Explosion Protection vent inside



02 Chemical suppression, highly reliable



03 Explosion protection vent outside



#2 EXPLOSION VENT

Pressure relief panels that safely vent explosions.

UNIQUE FEATURES:

- Lightweight composite design
- Precision burst pressure rating
- Weather & corrosion-resistant

ACCESSORIES

- Venting panels & rupture discs: Relieve overpressure safely.
- Flameless vents Indoor

BENEFITS:

- Relieve pressure safely
- Protect vessels & ducts
- Lower system repair costs
- Ducting attachments: Direct vented flames/gases outdoors.
- Weather covers & guards: Protect vent panels from environment.



#3 SPARK DETECTION

Isolate explosion propagation.

UNIQUE FEATURES:

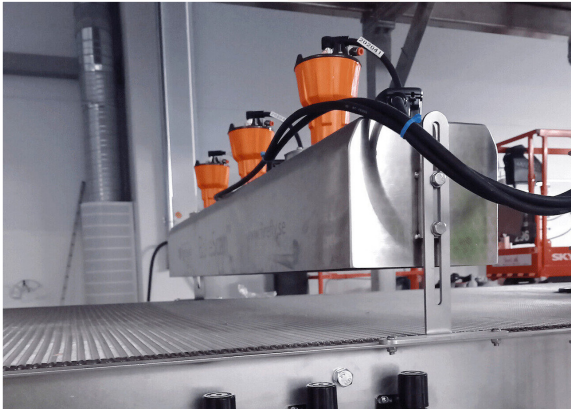
- 3High-sensitivity IR sensors
- Real-time spark monitoring

ACCESSORIES

- Fast-acting valves – Knife gate or pinch style
- Flame arrestors

BENEFITS:

- Prevent ignition sources
- Increase process safety
- Isolation barriers
- In-line extinguishing barriers
- Check and flap valves



#4 ISOLATION VALVES

Blend liquids or melt solids into liquid form for downstream use.

UNIQUE FEATURES:

- Millisecond closure speed
- Robust stainless housing

ACCESSORIES

- Fast-acting valves – Knife gate or pinch
- Flame arrestors
- Check & flap valves

BENEFITS:

- Stop flame propagation
- Protect connected equipment

- Isolation barriers – Chemical or mechanical
- In-line barriers – Suppress flames in process lines



ACCESSORIES:

- Control panels
- Pressure sensors
- Infrared spark sensors
- Vent covers
- Test kits
- Suppression canisters
- Replacement valves
- Flame arrestors
- Isolation valves
- Rupture panels
- Flameless vents
- Acoustic sensors
- High-speed actuators
- Distribution nozzles
- Chemical refill kits
- System control software
- Emergency stop stations
- Data logging modules

APPLICATIONS

Food, Baking, Grain Handling, Chemical, Pharmaceutical,

[Food] Flour, sugar, starch, spices, milk powder, cocoa. [Chemical] Wheat, corn, soybeans, feed, silos, milling lines. [Cosmetics & Personal Care] Solvents, resins, powdered additives, fertilizers, pigments [Pharmaceutical] APIs, fine powders, excipients, spray drying, tablet coating.



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