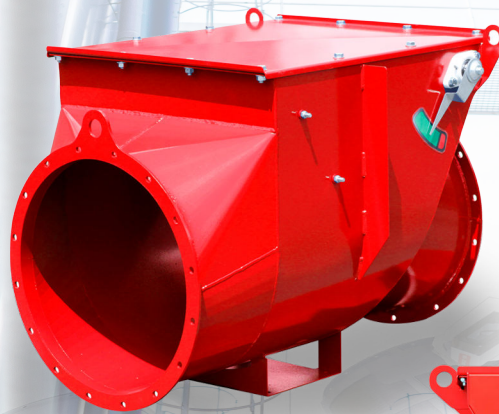




Catalog #77- 8027

W. T. Maye, Inc. (WTMI)
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Saf-t-FlapTM

Explosion Isolation Valve

US and International Patents pending.

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US and International Patents pending.

Key Advantages

The Saf-t-Flap™ explosion isolation valve has been developed to provide effective mechanical isolation against dust explosions upstream and downstream of the piping systems leading to and from process equipment such as dust collectors, filters, and cyclones.

The valve can be used in a 'normally open' configuration or a 'normally closed' configuration, with very low pressure drop in both application conditions. Saf-t-Flap can be placed both at the inlet and outlet of a piece of equipment such as a dust collector, isolating it from the effects of a dust explosion from both directions.

In the event of a dust explosion, the valve shuts and latches closed to prevent flame and pressure from moving through the piping system. Where the flameball ejected by a deflagration is unacceptable and ducted relief is impractical, flameless venting technology provides an alternative passive protection solution.

Self-Cleaning Design

Aligning the internal lower body of the Saf-t-Flap valve with the piping, causes the air flow to create continuous self-cleaning with low pressure drop. This avoids unwanted accumulation of dusty material inside the body of the valve.

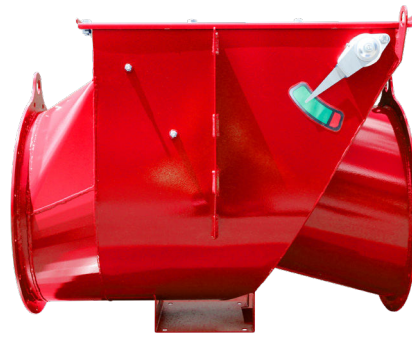
No Elbow Limitation

The Saf-t-Flap is certified for use with any number of piping elbows and positions between the protected equipment and the valve.

Sizes

Sizes UP TO DN1300 (52")

The Saf-t-Flap is certified for use with any number of piping elbows and positions between the protected equipment and the valve.



Push and Pull Flow

The Saf-t-Flap is certified for the following conditions of use in push flow and pull flow:

Push Flow:

- The explosion isolation valve is located between a fan and a filter.
- The valve is located on the clean air side and the fan pushes the dirty air flow towards the filter

Pull Flow:

- The explosion isolation valve is located between a suction fan and the clean air side of a filter
- The valve is located upstream of a filter on the dirty air side and a suction fan on the clean air side

Clean Air Circuit Application

The Saf-t-Flap device is the first mechanical isolation device able to provide mechanical protection to a dust collector from an explosion on the clean air side. When the valve is used in the 'latched open' position this may be installed on the clean air side (mounted in the opposite direction when compared to inlet side protection). The arrival of a dust explosion in the outlet side clean air duct will release the latch and push the valve to a locked closed position, preventing transmission of flame and pressure into the filter.

Low Pressure Drop:

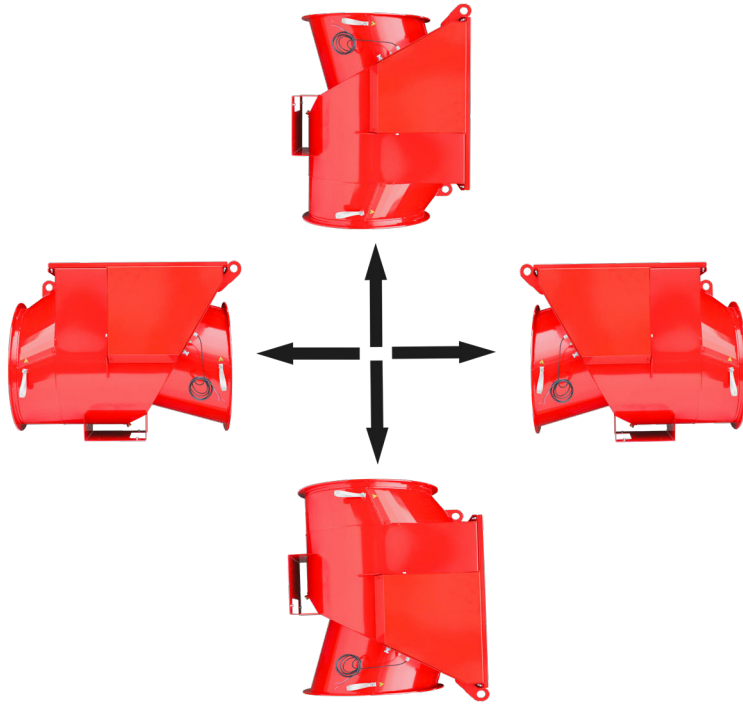
Saf-t-Flap has been designed to minimize pressure drop and therefore ongoing cost of ownership. The domed valve flap, in addition to the latched open deployment option of the valve reduces the energy required from the fan that is circulating the air flow.

Metal Dust Compatibility

Tests have been performed with metallic dust having combustion properties up to Kst 250 bar.m / s. Saf-t-Flap is certified for organic, synthetic and metallic dust operating conditions.

Certifications and Standards

- | | |
|--------------------|---------------------|
| • 2014/34/UE | • EN 14460 : 2018 |
| • EN 16447 : 2014 | • NFPA 69 |
| • EN15089 : 2009 | • INERIS 08ATEXQ406 |
| • EN 1127-1 : 2019 | • ISO 9001 : 2015 |



Horizontal and Vertical Installation

Saf-t-Flap is the first mechanical explosion isolation valve to be certified for both horizontal and vertical positioning. The vertical position allows new flexibility in ducting design and flap valve installation location.

Size

INCH	6	7	8	10	12	14	16	18	20	22	24	26	28	30	32	36	40	44	48	52
MM	160	180	200	250	300	350	400	450	500	550	600	650	700	750	800	900	1000	1100	1200	1300

Features

- **Body Construction:** Painted Carbon Steel
- **Flap:** Rounded domed flap: Stainless steel
- **Diameter:** ø160 mm to ø1300 mm
- **EPDM Gasket:** -30 °C to +70 °C / -22 °F to 158 °F
- **Flanges:** DIN or ANSI flange design
- **Sensor:** Closing indication in case of explosion or overpressure

Options

Housing Material	
<input type="checkbox"/>	Galvanized steel
<input type="checkbox"/>	Stainless steel
Gaskets	
<input type="checkbox"/>	Silicone FDA -10 °C to 180°C (14°F to 256°F)
Flanges	
<input type="checkbox"/>	DIN
<input type="checkbox"/>	ANSI

Operating Parameters

Kst max	250 bar.m/s	ATEX Classification	EX IID
Kst min	No limit	Atex inside	Zone 20 (II 1D)
Pmax	10 bar (145 psi)	Dust	All dusts kinds (organic and metal)
MIE	≥ 10 mJ	Dust Concentration	No limit
MIT	≥ 400° C (≥ 752° F)	Air Flow Speed m/s	15m/s ≤ v ≤ 30m/s 3000 ≤ v ≤ 6000 ft/min
MESG	1,7 mm (0.067 inch)	Working Pressure	500 mbar max
Vessel Pred Max	≤ 0.5 bar	Working Vacuum	-800 mbar max
Pressure Resistance	2.0 bar	Elbow Quantity	No limit



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