

Flamecatch – Flameless Explosion Venting

Flameless Explosion Venting System is an explosion protection solution designed for the **controlled and safe relief of overpressure** generated by an internal deflagration in equipment installed in enclosed or space-constrained environments, where the release of flames to the outside is not acceptable.

Installed in combination with explosion vent panels, the system allows the controlled discharge of explosion energy **without flame emission or the projection of fragments** into the surrounding area, thereby safeguarding equipment integrity and ensuring personnel safety.

The Flamecatch **retains and extinguishes the flame**, effectively cools the combustion gases, and significantly attenuates thermal and pressure wave effects, **enabling its safe use in indoor installations** while protecting both personnel and equipment.

Key Advantages

- Flameless explosion venting, without external flame emission.
- Effective limitation of thermal effects and pressure wave propagation.
- Robust design for demanding industrial applications.
- Made of carbon steel or stainless steel AISI 304 / 316.
- Certified for ATEX dust applications, including melting dusts.
- Easy installation on new or existing equipment.



Standards & Certification

- ATEX Certification: LOM 08ATEX7038 X in accordance with EN 16009 – Flameless Explosion Venting Devices
- ATEX Marking: Ex II D EN 16009



Applications

Flameless Explosion Venting System is engineered to safeguard enclosed process equipment **against dust explosion hazards**, particularly in **indoor environments or areas where conventional external venting is not feasible**. Typical applications include:

- Dust filters and collectors
- Silos and hoppers
- Elevators and conveyors
- Mixers, dryers, and reactors
- Process equipment in the food, chemical, pharmaceutical, wood, plastics, and metallurgy industries
- Installations with regular personnel presence or space limitations for venting

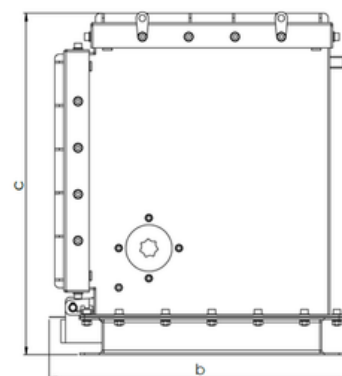
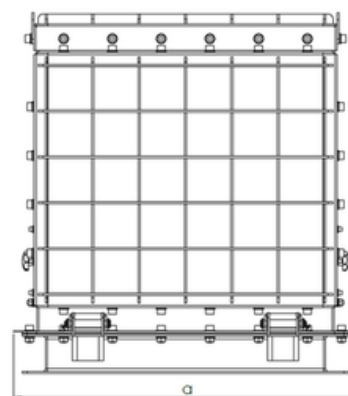
Based on operating conditions and process parameters, the **appropriate explosion vent panel** is selected to ensure correct and reliable integration of the flameless venting system.

Main Characteristics

Suitable for	Organic dust and melting products
P_{max}	10 barg
Max. K_{st}	< 250 bar m/s
Material	Painted carbon steel Stainless Steel AISI304 AISI316 Max. P _{red} admissible: 0,5 barg
Working temperature	-20 °C to +70 °C
T_{max} superficial	270 °C
Safety distance	1,5 – 4 m (depending on size and application conditions)
Certified	LOM 08ATEX7038 X according to EN 16009
ATEX marking	Ex II D EN 16009

Dimensions

Ref.	Dimensions a x b x c (mm)	V _{1FC, max - tested} (m ³)	Eff. Av (m ²)
FC350x200	350x255x287	1	0,022
FC550x250	550x306x338	3	0,056
FC610x300	610x355x387		0,082
FC550x350	550x405x434		0,089
FC537x385	537x440x472		0,097
FC496x496	496x551x580		0,121
FC690x385	690x440x473		6
FC690x425	690x480x512	0,147	
FC670x570	670x625x657	0,202	
FC880x530	880x595x617	0,252	
FC970x537	970x606x630	0,285	
FC990x660	990x725x747	0,369	
FC1000x666	1000x732x753	20	0,243
FC1000x1000	1000x1065x1087		0,465



Accessories

> **Magnetic rupture detector MK500A.**

Allows real-time monitoring of panel opening after an explosion by immediately detecting the rupture of the internal explosion venting panel through magnetic contact loss.

- PNP supply, operating voltage 10...30 V DC
- Ambient temperature: -25 °C ... 60 °C
- Degree of protection: IP65; IP67
- ATEX marking: Ex II 3D Ex tc IIIC T125°C Dc X
- **Benefits:** Enables real-time monitoring of panel opening after an explosion by immediately detecting the rupture of the internal venting panel through magnetic contact loss.



> **Process (or safety) flange**

Facilitates safe installation of the explosion venting panel – flameless venting assembly and reinforces the equipment structure.

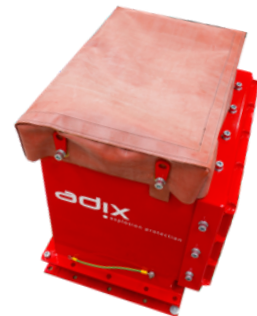
- Made of: carbon steel, stainless steel AISI 304 or AISI 316
- Available versions: welded (type L) or bolted (type U)
- Suitable for: vertical or horizontal installation
- **Benefits:** Ensures robust system fixation and maintains mechanical integrity during normal operation.



> **Climatic and environmental insulation – FCACWC protective cover.**

Protects the flameless venting device against the ingress of dust, dirt and environmental agents, maintaining the efficiency of the dissipating element in dirty environments or outdoor installations.

- Protection against rain, dust and dirt
- Insulation material: durable plastic
- Certified efficiency, without affecting performance or explosion behavior
- **Benefits:** Ensures system functionality and durability under adverse environmental conditions, preventing blockage of the venting meshes.



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