

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:

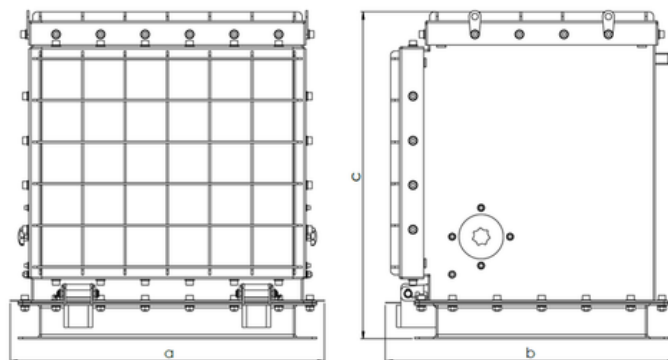
- Dust filters and collectors
- Silos and hoppers
- Elevators and conveyors
- Mixers, dryers, and reactors
- Process equipment in the food, chemical, pharmaceutical, wood, plastics, and metallurgy industries
- Installations with regular personnel presence or space limitations for venting

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 powder and melting products
P_{max}	145.04 psi (g) (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	-4 °F to +158 °F (-20°C a +70°C)
T_{max} superficial	518 °F (270°C)
Safety distance	4.92 - 13.12 ft (1.5-4m) (depending on size and application conditions)
Certified	LOM 08ATEX7038 X according to EN 16009
ATEX marking	Ex II D EN 16009

Dimensions



Ref.	Dimensions (in) axbxc	Dimensions (mm) axbxc	V _{1FC, max - tested} (ft ³)	V _{1FC, max - tested} (m ³)	Eff. Av (ft ²)	Eff. Av (m ²)
FC350x200	13.78×10.04×11.30	350×255×287	35.31	1	0.24	0.022
FC550x250	21.65×12.05×13.31	550×306×338	105.94	3	0.60	0.056
FC610x300	24.02×13.98×15.24	610×355×387			0.88	0.082
FC550x350	21.65×15.94×17.09	550×405×434			0.96	0.089
FC537x385	21.14×17.32×18.58	537×440×472			1.04	0.097
FC496x496	19.53×21.69×22.83	496×551×580			1.30	0.121
FC690x385	27.17×17.32×18.62	690×440×473	211.89	6	1.40	0.130
FC690x425	27.17×18.90×20.16	690×480×512			1.58	0.147
FC670x570	26.38×24.61×25.87	670×625×657			2.17	0.202
FC880x530	34.65×23.43×24.29	880×595×617			2.71	0.252
FC970x537	38.19×23.74×24.80	970×606×630			3.07	0.285
FC990x660	38.98×28.54×29.41	990×725×747	706.29	20	3.97	0.369
FC1000x666	39.37×28.82×29.65	1000×732×753			2.62	0.243
FC1000x1000	39.37×41.93×42.80	1000×1065×1087			5.01	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: -13°F...140°F (-25°...60°C)
- Degree of protection: IP65; IP67
- ATEX marking: Ex II 3D Ex tc IIIC T257°F (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.

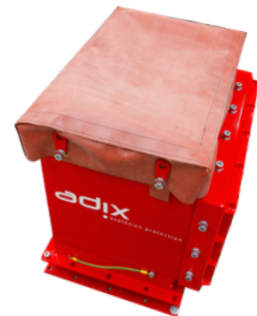
- Made of: carbon steel, stainless steel AISI 304 or AISI 316
- Available versions: welded (type L) or bolted (type U)
- Suitable for: vertical or horizontal installation
- **Benefits:** Ensures robust system fixation and maintains mechanical integrity during normal operation.



> 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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