

Flameless Vents

Explosion Protection System Components

Advantages:

- Allows explosion relief venting to be applied in areas where flame ejection cannot be permitted
- Proven design provides fast, reliable operation
- Suitable for venting applications where use of a vent duct is not practical or feasible
- Requires minimal maintenance



Application

IEP Technologies offers flameless vents for applications requiring indoor or outdoor explosion relief venting where flames cannot be directed to a safe location or where the use of a vent duct is not practical or feasible.

Standard Flameless Vents

Both the IndoorVent IV and the IndoorVent EXL are ATEX compliant flameless vents comprising of a bursting disc, a burst-sensor, a gasket, and a ceramic mesh vent filter to quench the flame. When an explosion occurs, the bursting disc ruptures once the pressure increase exceeds the burst disc rating. The fireball passes through the ceramic mesh vent filter where the flame is quenched, and cools the combustion gases as they pass through the filter. The integrated electronic burst indicator keeps plant personnel informed of the status of the system.



Specifications for IndoorVent IV

IV Size	IV 240, IV 600, IV 1000, IV 1600, IV 2200	IV 3200, IV 4200
Bursting Pressure, P_{stat}	1.45 psig @ 72°F (0.1 barg @ 22°C)	
Reduced Pressure, P_{red}	1.45 to 21.7 psig (0.1 to 1.5 barg)	≤ 8.70 psi (≤ 0.60 barg)
Max. K_{ST}	250 bar-m/s	
Available Vent Sizes, in (mm)	8, 12, 16, 20, 24 (200, 300, 400, 500, 600)	28, 32 (700, 800)
Max. Vessel Volume, ft^3 (m^3)	35, 155, 155, 342, 342 (1, 4.4, 4.4, 9.7, 9.7)	882 (25)
Effective Venting Area, in^2 (cm^2)	37, 93, 155, 248, 341 (240, 600, 1000, 1600, 2200)	496, 651 (3200, 4200)
Approximate Weight, lbs (kg)	88, 110, 176, 260, 381 (40, 50, 80, 118, 173)	666, 873 (302, 396)

Specifications for IndoorVent EXL

IV EXL Size	IV EXL 457 x 890 SB	IV EXL 457 x 890 DB	
Bursting Pressure, P_{stat}	1.45 psig @ 72°F (0.1 barg @ 22°C)		
Reduced Pressure, P_{red}	1.45 to 13.1 psig (0.1 to 0.9 barg)		
Max. K_{ST}	200 bar-m/s		
Flange Size, in (mm)	213 x 889 (540 x 970)		
Max. Vessel Volume, ft^3 (m^3)	≤ 155 (4.4)	≤ 155 (4.4)	≥ 339 (9.6)
Effective Venting Area, in^2 (cm^2)	294 (1900)	480 (3100)	325 (2100)
Approximate Weight, lbs (kg)	200 (90)	360 (163)	

Spring-Loaded Flameless Vents

The EVN 2.0 is an ATEX compliant round flameless vent comprising of a re-closeable, spring-loaded valve plate, a switch to detect the opening of the valve plate, a gasket, and a stainless steel flame arrestor. When an explosion occurs, the valve plate opens once the pressure increase exceeds the opening pressure. The fireball passes through the stainless steel flame arrestors, which quenches the flame and cools the combustion gases as they pass through them. The integrated switch keeps plant personnel informed of the status of the system.



Specifications for EVN2.0

EVN2.0 Size	266	320	420	480	565	645	735
Relief Area, in ² (cm ²)	77 (499)	113 (732)	195 (1260)	258 (1665)	356 (2300)	463 (2990)	605 (3905)
Opening Pressure, P _{stat}	0.73 ± 0.15 psig @ 72°F (0.05 ± 0.01 barg)						
Max. Reduced Pressure, P _{red}	29 psig (2.0 barg)						
Max. K _{ST}	300 bar-m/s						
Max. Vessel Volume, ft ³ (m ³)	847 (24)						
Max. Diameter, in (mm)	18 (457)	20 (510)	25 (625)	27 (690)	31 (790)	38 (955)	38 (970)
Approximate Height, in (mm)	5 (134)	6 (142)	7 (165)	8 (201)	9 (228)	9 (233)	10 (260)
Approximate Weight, lbs (kg)	64 (29)	82 (37)	143 (65)	176 (80)	253 (115)	353 (160)	441 (200)

Ordering Information

Flameless venting systems are designed in accordance with the appropriate standards applicable to your location. Information required for flameless vent selection includes explosibility characteristics of dust / gas, volume and aspect ratio of enclosure to be protected, process temperature and pressure ranges, details of material(s) processed, and the required reduced explosion pressure or enclosure shock resistance. Consult IEP Technologies for technical design assistance in selecting the correct flameless vent panel(s) for your specific application.

For additional information, please contact one of the following locations:

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