

Fike Corp, 704 S 10th St, Blue Springs MO 64015

FlamQuench II flameless dust explosion venting device for indoor as well as outdoor applications. For use with ST-1 dusts

(KST \leq 200 bar m/s), ST-2 dusts (200 \leq KST \leq 300 bar m/s) and fibrous dusts where the potential maximum explosion pressure would be less than 11.1 psi (0.8 bar). The maximum protected volume allowed is 710 ft³ (20 m³), regardless of the number of devices installed. Specific limits are also set for the maximum volume that can be protected by a single device.

FlamQuench II inlet connection:

Model No.	Nominal Dia.	Effective Vent Area		Max Protected Vol.	
		Non-Fibrous ST-1 & ST-2	Fibrous Dusts	for a Single Device Dusts	
	in. (cm)	in.2 (cm ²)	in.2 (cm ²)	cm ² ft ³ (m ³)	
E-34-001-08	8 (20)	34 (299)	27 (175)	23.5 (0.67)	
E-34-001-12	12 (30)	77 (494)	61 (394)	53.0 (1.50)	
E-34-001-16	16 (40)	136 (877)	109 (701)	94.0 (2.67)	
E-34-001-20	20 (50)	213 (1372)	170 (1095)	147 (4.16)	
E-34-001-24	24 (60)	306 (1975)	244 (1577)	212 (6.00)	

Explosions vented indoors will have an effect on the building housing the protected equipment due to increased pressurization of the surrounding volume.

The equation $V_0 / V_1 = 1.74 (P_0 / \Delta P)$ must be used to calculate the expected pressure on the building, where:

V_0 = Volume of the building,

V_1 = Volume of the equipment (in the same units as V_0).

P_0 = Ambient pressure (14.7 psia or 1.013 bara),

ΔP = Pressure rise in the building (P_0 and ΔP must be entered in consistent units).

For a building that is not specially reinforced, FM Approvals recommends that the ΔP not exceed 0.35 psi (24 mbar), 50 psf.