

Composite High Performance Explosions Vents Type VV-S

The VV-S type vent is a composite membrane, high performance explosion vent. VV-S vents are lightweight and specially designed for dynamic non-fragmenting operation during venting of explosions from industrial equipment.



SPECIFICATIONS

Type		VV-S	
Sizes ⁽¹⁾		300x300 mm to 1000x2000 mm Intermediate sizes width/length ratio 1:1 to 1:2 ⁽²⁾	
Material of Construction		1.4301 / PTFE / 1.4301	
Process Gasket	EPDM (standard)	-40°F to +239°F	-40°C to +115°C
	Silicone	-40°C to +446°F	-40°C to +230°C
Burst Pressure		1.45 psig	100mbarg
Burst Pressure Tolerance		± 0.22 psig	± 15mbarg
Maximum Operating pressure		0.25 psig	50mbarg
Maximum Vacuum Rating		0.25 psig	50mbarg
Operating Temperature Range		-4°F to +140°F	-20°C to +60°C
Ambient Temperature		-4°F to +140°F	-20°C to +60°C
Relief Area	400x500	2.15 ft²	0.200 m²
	500x500	2.69 ft²	0.250 m²
	470x570	2.88 ft²	0.268 m²
	625x625	4.20 ft²	0.390 m²
	500x800	4.31 ft²	0.400 m²
	500x1000	5.38 ft²	0.500 m²
	566x900	5.48 ft²	0.509m²
	600x1000	6.46 ft²	0.600 m²
	900x900	8.72 ft²	0.810 m²
1000x1000		10.76 ft²	1.000 m²
Process Connections		LAF	
Explosion Hazards	K _{st}	≤ 400 bar.m/s	
	K _g	≤ 100 bar.m/s	
	P _{red}	≤ 0.9barg	
Compliant		NFPA68	
Approvals			
ATEX Approvals	Marking	Ⓔ GD	
	Norms	EN 14797	
	Certification	IBExU04ATEX2055 X	
European Conformity CE Approval		CE-0948	
Other Approvals		EAC	

1) These are ATEX compliant sizes. VV-S sizes outside the ATEX size ranges will not be CE and Ex marked and are only allowed in non-ATEX regions.

2) Width/length ratio up to 5:1, if length ≥180 mm and width ≤900 mm.

OPTIONS

- Insulation

Prevents heat loss from protected process and prevents condensation on the process side of the explosion vent. Fike offers four options of Insulation:

- Atmospheric Insulation Mattres Type FI

Temperature range		Material
-40°F to 466°F	-40°C to +230°C	Insulation Fiber (minimum density 22kg/m ³), thickness 40mm – enveloped in water-repellent envelope

- Armaflex

Insulation	Temperature range		R value (m ² .K/W)	U (or K) value (W/(m ² .K))
Armaflex HT 25mm ⁽³⁾	-40°F to 266°F	-40°C to +130°C	0.69	1.44
Armaflex 32mm	-40°F to 185°F	-40°C to +85°C	0.89	1.125
Armaflex 50mm	-40°F to 185°F	-40°C to +85°C	1.39	0.72

3) The top layer of the Armaflex HT 25mm ensure UV resistance.

- Rupture Indicator

Provides an electrical signal that indicates opening of the explosion vent.

- RI - Integrated circuit strip Rupture Indicator
 - RI2 - Integrated circuit strip Rupture Indicator – Supervised SIL2
 - MRI – Add-on Magnetic Rupture Indicator

More information of the Rupture Indicators can be found on datasheet X.2.58.01

- Flameless Venting

Flame filter that quenches the flames that are ejected through the opened explosion vent.

- FlamQuench II SQ → More information can be found on datasheet X.2.25.01

- Weather Protection

Protects the explosion vent against the impact of weather conditions.

- Ex-Cover Rectangular → More information can be found on datasheet X.2.48.01

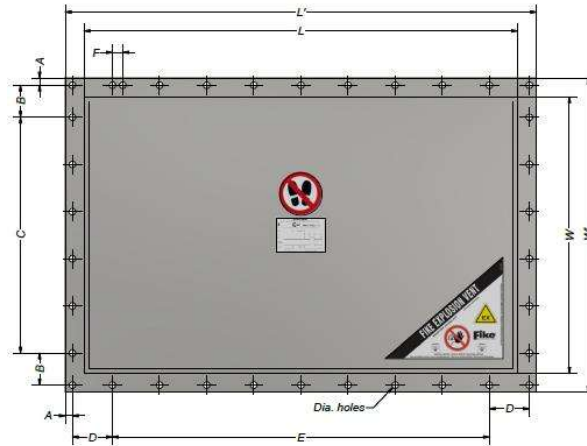
INSTALLATION REQUIREMENTS

The use of top frame with venting panels is mandatory. Frames need to be ordered separately, or provided by the user according Fike Specifications. If delivered by Fike the angle profiles comply with DIN EN 10 056-1/DIN EN 10 056-2.

Bolts are provided by the customer.

DIMENSIONS

Below are tabulated the dimensions of the most common vent sizes. Other sizes can be made available on request.



Size	W	W'	L	L'	A	B	C	D	E	Bulge Height	Bolt specifications	
Mm	mm	mm	mm	mm	mm	mm	qty	mm	qty	mm	Qty	size
400x500	420	500	520	600	15	85	4x EQ SP @100mm	85	5x EQ SP @100mm	90	22	M10
500x500	520	600	520	600	15	85	5x EQ SP @100mm	85	5x EQ SP @100mm	90	24	M10
470x570	490	570	590	670	15	70	5x EQ SP @100mm	70	6x EQ SP @100mm	90	26	M10
625x625	645	735	645	735	12.5	130	4x EQ SP @150mm	130	4x EQ SP @150mm	90	20	M10
500x800	520	600	820	900	15	85	5x EQ SP @100mm	85	8x EQ SP @100mm	120	30	M10
500x1000	520	600	1020	1100	15	85	5x EQ SP @100mm	85	10x EQ SP @100mm	120	34	M10
566x900	586	666	920	1000	15	68	6x EQ SP @100mm	85	9x EQ SP @100mm	120	34	M10
600x1000	620	700	1020	1100	15	85	6x EQ SP @100mm	85	10x EQ SP @100mm	120	36	M10
900x900	920	1000	920	1000	15	85	9x EQ SP @100mm	85	9x EQ SP @100mm	125	40	M10
1000x1000	1020	1100	1020	1100	15	85	10x EQ SP @100mm	85	10x EQ SP @100mm	130	44	M10

ORDERING

Please include the following specifications when ordering a VV-S rectangular explosion vent:

- Size⁽⁴⁾
- Gasket Type
- Options⁽⁵⁾
 - Insulation
 - Rupture Indicator

4) Explosion vents smaller and larger than 300x300mm to 1000x2000mm are not ATEX certified.

5) The FlamQuench II SQ and Ex-Cover Rectangular needs to be ordered separately.