

### EXPLOSION VENTING PANELS: TYPE HI-CV, HI-CV-S CIRCULAR SHAPE

#### DESCRIPTION

Fike HI-CV (High Integrity Composite Vent) explosion venting panels are high performance explosion vents especially designed to provide a rapid and non-fragmenting opening in industrial process equipment when a dust- or gas explosion occurs. Excess overpressure is vented and the internal explosion pressure is reduced to a level that the process equipment can withstand.

Fike HI type explosion vents are available in following distinctive types, each offering ideal solutions for specific applications or industries.

- **HI-CV:** for use in most industrial applications where the operating pressures (both positive and negative) are near to atmospheric.
- **HI-CV-S:** designed for use in applications where the operating pressure approaches the burst pressure range, or where high vacuum pressure may exist.

#### FEATURES AND BENEFITS

- Highest venting efficiency
- Non-fragmenting opening
- Flange alignment independent
- Maintenance free
- Fully compliant with ATEX / EN14797 / NFPA68 / EAC
- Interchangeable with existing circular explosion vents



## SPECIFICATIONS

Type	HI-CV		HI-CV-S	
Shapes	Circular <sup>1</sup>			
Sizes	DN150 – DN1200 / 6" - 48"			
Materials of Construction <sup>2</sup>	1.4301 / FEP / 1.4301 (standard) 1.4301 / PFA / 1.4301 (optional) 1.4404 / FEP / 1.4404 (optional) 1.4404 / PFA / 1.4404 (optional)			
Burst Pressure (BP) <sup>3</sup>	See Table			
	BP ≤ 0.1 barg	BP > 0.1 barg	BP ≤ 0.1 barg	BP > 0.1 barg
Maximum Operating Pressure <sup>3</sup>	75%	60%	90%	80%
Maximum Vacuum Rating	70%	60%	See Table	
Burst Pressure Tolerance	± 15 mbarg for burst pressure ≤ 70 mbarg ± 25 mbarg for burst pressure > 70 mbarg and ≤ 250 mbarg ± 50 mbarg for burst pressure > 250 mbarg			
ATEX (EN14797)	Min Size: DN150 Max Size: DN1200 Kst ≤ 435 bar.m/s Kg ≤ 100 bar.m/s Pred,max ≤ 2 barg			
Operating Temperature <sup>3</sup>	-40 °C up to 260 °C			

(1) For rectangular shape: see Fike CV-Type explosion vents.

(2) Sizes DN150, DN200 & DN250 are available in 1.4301 material depending on the burst pressure. Contact Fike for more information.

(3) Burst pressure and burst pressure limits are dependent on operating temperature. Requested burst pressure, operating pressure as well as operating temperature have to be specified when ordering.

## ACCOMPANYING GASKETS

All vents come with an integral gasket. Fike offers PTFE, EPDM, silicone and aramid fiber gaskets.

## ACCOMPANYING FLANGES

The use of flanges with venting panels is mandatory. Flanges need to be ordered separately, or provided by the user according Fike specifications. See Table.

## OPTIONAL ACCESSORIES

- Burst indicators
  - Provides an electrical signal that indicates opening of the explosion vent.
- Insulation
  - Prevents heat loss from the protected process and prevents condensation on the process side of the explosion vent.
- FlamQuench II™
  - Flamefilter that quenches the flames that are ejected through the opened explosion vent.
- Ex-Cover
  - Protects the explosion vent against the impact of weather conditions.

Additional info can be found in the separate datasheets.

## CIRCULAR SHAPED HI-CV and HI-CV-S

STANDARD WELDING NECK FLANGES EN 1092-1 PN 10 <sup>2</sup>

Vent Size	Relief Area in m <sup>2</sup>		Min. Burst Pressure in mbarg at 22 °C		Max. Burst Pressure in mbarg at 22 °C		Vacuum Rating in mbarg <sup>1</sup>
	HI-CV	HI-CV-S	HI-CV	HI-CV-S	HI-CV	HI-CV-S	
mm							HI-CV-S only
150	0.015	0.012	150	355	1000	1500	Full
200	0.026	0.022	180	260	1000	1200	Full
250	0.044	0.038	85	175	649	1000	Full
300	0.064	0.057	50	100	554	700	Full
350	0.078	0.071	55	100	499	700	Full
400 <sup>st</sup>	0.105	0.097	40	100	434	700	Full
450	0.136	0.126	35	100	389	700	Full
500 <sup>st</sup>	0.171	0.160	30	100	344	700	Full
600 <sup>st</sup>	0.250	0.237	20	100	284	700	Full
700	0.345	0.330	20	75	244	700	Full
800 <sup>st</sup>	0.457	0.440	20	60	214	700	955
900	0.575	0.555	20	50	189	700	Full
1000	0.718	0.696	20	40	169	700	500
1200	1.050	1.023	20	25	154	700	290

(st) To accommodate delivery demands of the market, a number of CV style explosion vent sizes have been selected which are produced for stock with a nominal burst pressure of 0.1 barg ± 25 mbarg at 22 °C.

(1) Higher vacuum ratings might be available after additional validation, contact Fike for details on possibilities and cost.

(2) Explosion vents fitting to other flange standards are also available, contact Fike for details.

## CIRCULAR SHAPED HI-CV and HI-CV-S

STANDARD WELDING NECK FLANGES ANSI 150 B16.5 & B.S.3293 <sup>2</sup>

### ANSI 150 B16.5

Vent Size	Relief Area in m <sup>2</sup>		Min. Burst Pressure in mbarg at 22 °C		Max. Burst Pressure in mbarg at 22 °C		Vacuum Rating in mbarg <sup>1</sup>
	HI-CV	HI-CV-S	HI-CV	HI-CV-S	HI-CV	HI-CV-S	
"							HI-CV-S only
6	0.013	0.011	150	355	1000	1500	Full
8	0.025	0.021	180	260	1000	1200	Full
10	0.042	0.036	85	175	649	1000	Full
12	0.061	0.055	50	100	554	700	Full
14	0.076	0.069	55	100	499	700	Full
16	0.102	0.094	40	100	434	700	Full
18	0.133	0.123	35	100	389	700	Full
20	0.167	0.156	30	100	344	700	Full
24	0.248	0.235	20	100	284	700	Full

### ANSI 150 B.S.3293

Vent Size	Relief Area in m <sup>2</sup>		Min. Burst Pressure in mbarg at 22 °C		Max. Burst Pressure in mbarg at 22 °C		Vacuum Rating in mbarg <sup>1</sup>
	HI-CV	HI-CV-S	HI-CV	HI-CV-S	HI-CV	HI-CV-S	
"							HI-CV-S only
28	0.344	0.328	20	75	244	700	Full
30	0.398	0.381	20	75	229	700	Full
32	0.456	0.438	20	60	214	700	955
34	0.517	0.499	20	60	201.5	700	Full
36	0.583	0.563	20	50	189	700	Full
38	0.653	0.632	20	50	179	700	Full
40	0.727	0.704	20	40	169	700	500
42	0.804	0.781	20	30	164	700	400
44	0.886	0.861	20	30	159	700	400
46	0.971	0.946	20	25	155	700	300

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(2) Explosion vents fitting to other flange standards are also available, contact Fike for details.

**CIRCULAR SHAPED HI-CV and HI-CV-S  
LIGHTWEIGHT ANGULAR FRAMES (LAF) <sup>2</sup>**

Vent Size	Relief Area in m <sup>2</sup>		Min. Burst Pressure in mbarg at 22 °C		Max. Burst Pressure in mbarg at 22 °C		Vacuum Rating in mbarg <sup>1</sup>
	mm	HI-CV	HI-CV-S	HI-CV	HI-CV-S	HI-CV	HI-CV-S
150	0.015	0.012	150	355	1000	1500	Full
200	0.027	0.023	180	260	1000	1200	Full
250	0.044	0.039	85	175	649	1000	Full
300	0.064	0.057	50	100	554	700	Full
350	0.079	0.071	55	100	499	700	Full
400 <sup>st</sup>	0.106	0.097	40	100	434	700	Full
450	0.133	0.124	35	100	389	700	Full
500 <sup>st</sup>	0.171	0.160	30	100	344	700	Full
550	0.226	0.213	25	100	314	700	Full
600 <sup>st</sup>	0.252	0.239	20	100	284	700	Full
700	0.349	0.333	20	75	244	700	Full
750	0.398	0.381	20	75	229	700	Full
800 <sup>st</sup>	0.462	0.444	20	60	214	700	955
850	0.550	0.531	20	60	202	700	Full
900	0.589	0.569	20	50	189	700	Full
1000	0.734	0.712	20	40	169	700	500
1050	0.805	0.781	20	30	164	700	400
1100	0.886	0.862	20	30	159	700	400
1200	1.075	1.048	20	25	154	700	290

(st) To accommodate delivery demands of the market, a number of CV style explosion vent sizes have been selected which are produced for stock with a nominal burst pressure of 0.1 barg ± 25 mbarg at 22 °C.

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