DATA SHEET

EXPLOSION DIVERTER

DESCRIPTION

If deflagrations are allowed to propagate through pipes, they have a high probability of being able to transition from a deflagration into a detonation.

An explosion diverter limits the effects of explosions propagating through pipes to an acceptable and safe level. While full isolation (flame and pressure) cannot be achieved (*), the diverter will control the explosion as it propagates through the pipe down to a level that allows the use of other protective techniques and to enable the design engineer to use standard industry codes (such as NFPA, EN, VDI) to size the protection systems on the secondary receiving vessel (and the primary vessel).

(*) Only explosion isolation valves or chemical barriers will prevent the explosion transfer entirely.

APPROVALS:

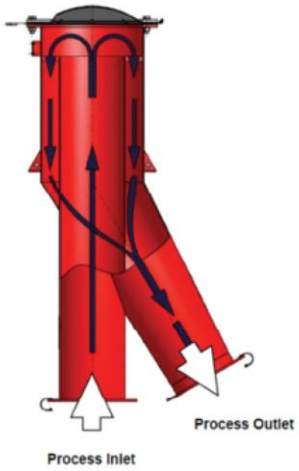
- EAC

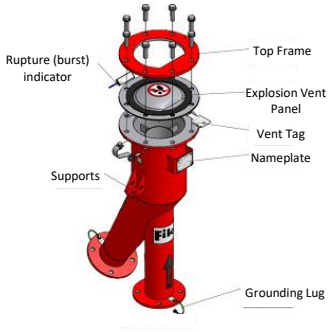
FEATURES AND BENEFITS

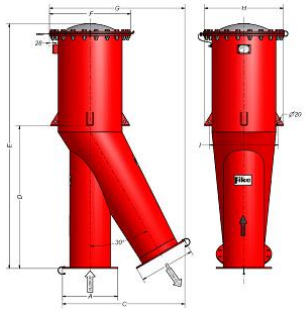
- Passive explosion isolation does not require detection and control
- Proven and tested concept
- Prevent pressure piling and flame jet ignition
- Currently the only circular vent panel specifically designed and certified for use on diverters
- Non fragmenting circular explosion vent panel third party approved, tested and ATEX certified
- Easy refurbishment, replace vent
- Rupture indicator to sense opening of vent panel, initiate process shutdown
- Flanged to suit site requirements
- Weather cover and insulation available on request

SAFETY FUNCTION

A diverter combines explosion venting with ductwork to re-direct the flow in a 180° turn. The pressure wave preceding the flame front will open the vent panel mounted on top of the diverter allowing the pressure to freely expand into the atmosphere. The flame front will follow the exiting flow and exit the pipe axially rather than making the 180° turn so that the flame is disengaged or decoupled. A diverter is typically installed in between 2 vessels, or into a pipeline connected to a vessel in which a dust explosion can originate. The diverter provides a bi-directional protection, with or against the flow:







	Explosion Diverter Nominal Size								
Fike Part Number	65010000	65015000	65020000	65025000	65030000	65035000	65040000	65050000	65060000
Dimensions (mm)	DN100	DN150	DN200	DN250	DN300	DN350	DN400	DN500	DN600
A	Ø 210	Ø 265	Ø 320	Ø 375	Ø 440	Ø 490	Ø 540	Ø 645	Ø 755
B	Ø 210	Ø 265	Ø 320	Ø 375	Ø 440	Ø 490	Ø 540	Ø 645	Ø 755
C	462	565	668	800	922	1064	1159	1385	1609
D	563	710	820	973	1196	1424	1568	1864	2105
E	870	1142	1401	1606	1859	2146	2382	2674	3087
F	Ø 320	Ø 375	Ø 490	Ø 595	Ø 645	Ø 755	Ø 860	Ø 975	Ø 1175
G	517	620	753	910	1025	1197	1319	1555	1819
H	335	390	473	575	704	807	908	1109	1313
I	255	310	393	495	604	707	808	969	1173
Approx. Weight (kg)	38	62	96	140	165	214	337	516	719
Diverter panel HI-CV-S [1]	DN200	DN250	DN350	DN450	DN500	DN600	DN700	DN800	DN1000
Part Number	75000931001	75001931001	75003931001	75005420001	75005920001	75006920001	75007920001	75008920001	75010920001
P_{stat} @ 22°C (mbarg)	100	100	100	100	100	75	75	50	50
Tolerance (mbarg)	± 25	± 25	± 25	± 25	± 25	± 25	± 25	± 15	± 15
Max. Vacuum (mbar)	Full	Full	Full	Full	Full	Full	Full	-950	-500
Max. Operating Ratio	10%	10%	10%	25%	25%	50%	50%	50%	50%

(1) Purposely built diverter vent panel with unique part number. Flange bolting pattern: slip on flange pN2.5 / PN6 or ANSI 150. Other flange bolting patterns available on request, contact Fike atmospheric insulation is available for diverters installed inside but penetrating through the roof, contact Fike.
The explosion vent is NOT included in the scope of delivery.