

## 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.

A deflagration propagating through a conveying line will cause pressure piling, rapid flame acceleration and transition to detonation if not disengaged in a timely manner. The resulting explosion will not only damage the pipeline and accessories, but also make adequate protection of downstream process equipment (e.g. Dust Collectors, Dryers and Silos) virtually impossible due to the effects of flame jet ignition and pressure piling in the receiving vessel or apparatus.

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).

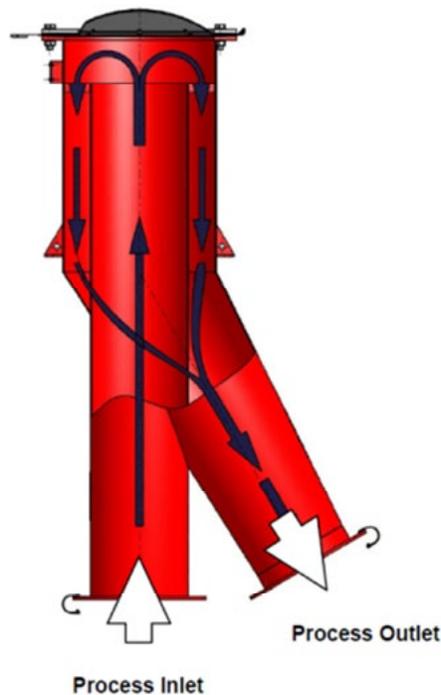
(\*) Only explosion isolation valves or chemical barriers will prevent the explosion transfer entirely.

### FEATURES AND BENEFITS

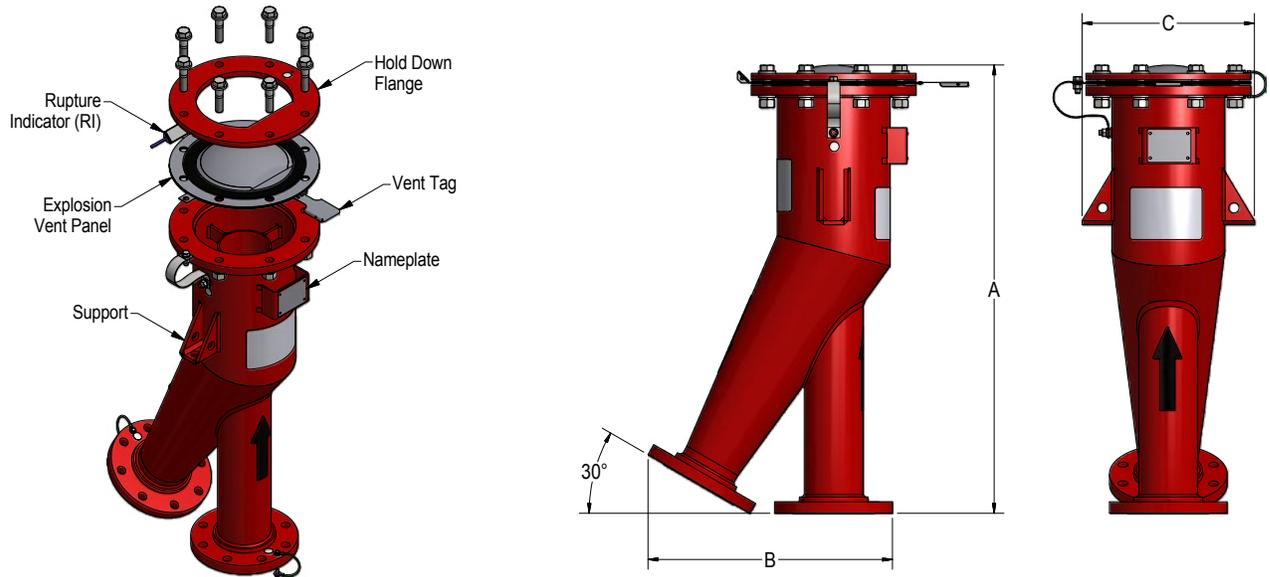
- Passive explosion protection device
- Carbon steel construction with red baked enamel finish
- Prevent pressure piling and flame jet ignition
- Non fragmenting HI-CV-S explosion vent, third party tested and approved, ATEX certified
- Easy refurbishment, replace vent
- Rupture indicator to sense opening of vent panel, initiate process shutdown
- ANSI 150 Flanged inlet & outlet
- 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 explosion vent allowing pressure to vent to atmosphere. 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:



Form No. X.1.41.01



### SPECIFICATIONS

Diverter P/N	Nominal Size	Replacement HI-CV-S Explosion Vent P/N	A IN (mm)	B IN (mm)	C IN (mm)	Weight Lb (Kg)
E30-031-04	4"	75000931001-K	34.5 (876)	19 (483)	13.5 (343)	100 (45.4)
E30-031-06	6"	75001931001-K	45 (1143)	23 (584)	16 (406)	163 (73.9)
E30-031-08	8"	75003931001-K	55.5 (1410)	26.5 (673)	19 (483)	295 (133.8)
E30-031-10	10"	75005420001-K	63.5 (1613)	32.5 (825)	23 (584)	380 (172.4)
E30-031-12	12"	75005920001-K	73.5 (1867)	38 (965)	28 (711)	560 (254.0)
E30-031-14	14"	75006920001-K	84.5 (2146)	45 (1143)	32 (813)	890 (403.7)
E30-031-16	16"	75007920001-K	94 (2388)	48 (1219)	36 (914)	980 (444.5)

**Notes:**

- Diverter assembly is provided with explosion vent and associated assembly hardware.
- Nuts, bolts, and gaskets for the inlet/outlet flanges supplied by customer.
- Atmospheric insulation is available for diverters installed inside but penetrating through the roof.
- Contact Fike for more information.
- All above data is subject to change without notice. Must not be used for construction unless confirmed in writing.