

## EXPLOSION ISOLATION PINCH VALVE (EIPV)

### DESCRIPTION

The EIPV, used in conjunction with other Fike explosion protection system components, is designed to provide an economical way to prevent deflagration propagation through interconnecting pipes or conveying lines to additional process equipment or operating locations.

The Fike EIPV consists of a heavy duty cast valve body containing a rugged elastomer sleeve. The sleeve serves as the process flow section and is connected to the process via two circular flanges. Upon explosion detection, compressed air is released at high speed into the valve body and the sleeve is pinched to full closure within milliseconds. This full closure provides a mechanical block to flame and pressure which stops explosion propagation beyond the valve. The full-port design prevents pressure drop and clogging under the most difficult conditions. The elastomer sleeve extends to the full face of the flange to minimize dead spaces and reduce the potential for bacterial contamination.

The Fike EIPV System includes a heavy duty elastomer sleeve, high speed solenoid valves, a pneumatic accumulator, low pressure switch, and shut off valve.

The actuating pressure is supplied from standard plant air source, regulated to 85 psig (6 barg) and stored in a pneumatic accumulator vessel mounted onto the valve body. The accumulator stores sufficient pneumatic energy to close the pinch valve quickly and maintain closure against a deflagration.

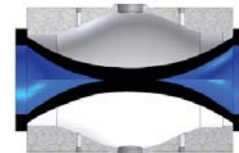
The EIPV relies on the detection and control hardware from the Fike explosion protection system. The EIPV uses a special solenoid output version of the control module, EPC Solenoid Edition (P/N E10-0119).

### FEATURES AND BENEFITS

- Provides a mechanical block to explosion flame and pressure
- Fast closure minimizes installation distance from vessel
- Food grade sleeve standard
- Available in a variety of flange standards and sleeve materials
- Full-port design prevents pressure drop and material accumulation
- Sanitary design - elastomer sleeve extends to the full face of the flange, eliminating potential for bacterial contamination
- Proven concept, large scale tested at Fike
- Third party tested and certified (CE, ATEX)
- No pyrotechnic devices required to activate the valve
- No reaction forces upon closure
- Vertical or horizontal mounting
- Uses readily available plant air
- Supervised accumulator pressure
- Can be operated and reset by user
- Very low maintenance



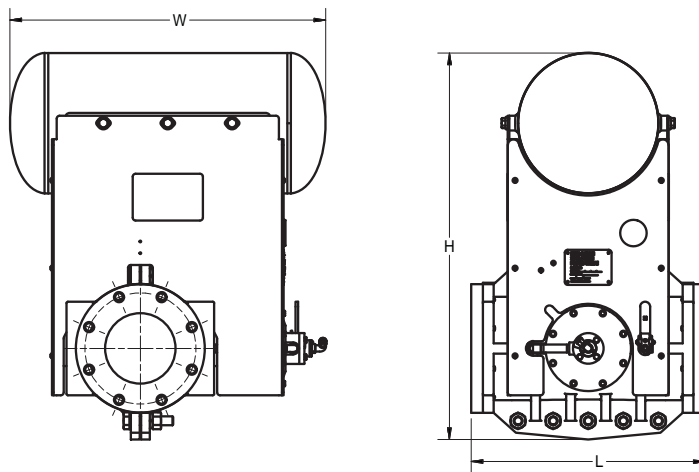
Valve Open



Valve Closed

## SPECIFICATIONS

|                     |  |
|---------------------|--|
| EIPV Body:          | Cast Iron with white urethane coating as standard. Bolted construction.  |
| Accumulator:        | Carbon steel with white urethane coating as standard. Welded construction with ASME and CRN certification as standard. (European PED certification available as an option.)    |
| Solenoid Valves:    | 24 VDC operation<br>Die cast Aluminum with protective coating.   |
| Temperature Rating: | Process: -40°F to 240°F (-40°C to 115°C) standard sleeve<br>Ambient: -20°F to 140°F (-28°C to 60°C)  |
| Process Sleeve:     | FDA approved white nitrile elastomer as standard (Only process wetted component)<br>Other materials available as an option. Consult Fike.                                      |
| Ingress Protection: | NEMA 4 (IP66) as standard and NEMA 4X for hazardous locations option.  |
| Maintenance         | Very low maintenance. Sleeve replaceable by plant personnel. Removal from process required.<br>Remaining components are easily accessible without removing valve from process. |



## ORDERING INFORMATION

| EIPV<br>Pipe Size | Dimensions (inches) |                 |                  |                        |                         |                      | Studs   |     | Weight           |
|-------------------|---------------------|-----------------|------------------|------------------------|-------------------------|----------------------|---------|-----|------------------|
|                   | W                   | L               | H                | Inside Sleeve Diameter | Outside Flange Diameter | Ø BC                 | Size    | Qty |                  |
| 4 in              | 27 in<br>686 mm     | 13 in<br>318 mm | 25 in<br>640 mm  | 4 in<br>101.6 mm       | 9 in<br>228.6 mm        | 7.50 in<br>190.5 mm  | 5/8 -11 | 8   | 183 lb<br>83 kg  |
| 6 in              | 27 in<br>686 mm     | 20 in<br>508 mm | 33 in<br>840 mm  | 6 in<br>152.4 mm       | 11 in<br>279.4 mm       | 9.50 in<br>241.3 mm  | 3/4 -10 | 8   | 282 lb<br>128 kg |
| 8 in              | 41.2 in<br>1047 mm  | 22 in<br>559 mm | 39 in<br>981 mm  | 8 in<br>203.2 mm       | 13.5 in<br>342.9 mm     | 11.75 in<br>298.5 mm | 3/4 -10 | 8   | 471 lb<br>214 kg |
| 10 in             | 41.2 in<br>1047 mm  | 24 in<br>610 mm | 40 in<br>1005 mm | 10 in<br>254.0 mm      | 16 in<br>406.4 mm       | 14.25 in<br>362.0 mm | 7/8 -9  | 12  | 547 lb<br>248 kg |
| 12 in             | 50 in<br>1270 mm    | 26 in<br>660 mm | 44 in<br>1118 mm | 12 in<br>304.8 mm      | 19 in<br>482.6 mm       | 17.00 in<br>431.8 mm | 7/8 -9  | 12  | 778 lb<br>353 kg |

### Notes:

- All above data is subject to change without notice. Must not be used for construction unless confirmed in writing.
- Standard Flange Rating: ANSI 150. Other flange ratings are available upon request.
- Food grade neoprene standard sleeve material. Other materials available upon request.
- Standard low pressure switch not hazardous rated. Explosion proof switch available upon request.
- Studs not included. Length will vary based on mating flanges.



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Form No. X.1.42.01-1 September, 2010 Specifications are subject to change without notice.