

Enclosure Protection Vents

Model EPV



Model EPV-1-SA-00
(Top Mount Configuration)



Model EPV-3-SA-90
(Side mount Configuration)



Description

Model EPV enclosure protection vents are self-seating gravity controlled, low pressure relief valves designed to ventilate excessive enclosure pressures that are created by the Rapid Exchange® process, or the failure of the enclosure pressure control devices. Each vent features a seamless cap, a spark arresting (SA) style exhaust element, a friction-free valve assembly, a base and a mounting hub. The mounting hub, along with associated pipe fittings, permits direct mounting through a round cutout on the top or side of a protected enclosure. This device functions in conjunction with Pepperl+Fuchs purge systems to reduce the hazardous (classified) area rating within protected enclosure(s), in accordance with the NEC - NFPA 70, Article 500, NFPA 496 and ISA 12.4. In addition, this device protects enclosures from all limited sources of pressure relief, regardless of source - i.e. unrelated pneumatic equipment, such as analyzers or other process control or measurement instrumentation.

Operation

Pepperl+Fuchs enclosure protection vents operate in a manner similar to a self-closing swing-check valve, and must, therefore, be installed in a true vertical position. They begin operation when pressure within the protected enclosure exceeds 0.65 inches (16.5 mm) of water ± 0.1 inch (2.5 mm). When the valve seat cracks, pressure is immediately released, and the effects of gravity begin yielding to the forces of enclosure back-pressure. Each vent is designed to operate in specific conjunction with a cross-section of Pepperl+Fuchs Rapid Exchange and pressurization/purging systems that exhibit similar flow characteristics, in order to ventilate their maximum (total failure condition) flow rate, while maintaining no more than 5 to 7 inches (127 mm to 177 mm) of water pressure within the protected enclosure(s).*

Vent Specifications

Vent Dimensions:	See Page 2	
Shipping Weights (lb (kg)):	-00	-90
-00: Top Mount	EPV-1:	3 (1.36) 4 (1.81)
-90: Side Mount	EPV-2:	3 (1.36) 4 (1.81)
	EPV-3:	4 (1.81) 5 (2.27)
	EPV-4:	7 (3.18) 9 (4.08)
	EPV-5:	10 (4.54) 12 (5.44)
Temp. Range:	-20 °F to +120 °F (-29 °C to +49 °C)	
Normal Operating Pressure:	* 2" to 5" (50.8 mm to 127 mm) of Water	
Maximum Operating Pressure:	** 5" to 7" (127 mm to 177 mm) of Water	

* Normal operating pressure indicates average enclosure pressure when vent is used with a compatible Rapid Exchange® purging system.

** Maximum operating pressure indicates enclosure pressure when vent is used with compatible enclosure protection systems during simulated failure of all pressure control devices.

* Vent, Enclosure Protection System and protective gas supply must be sized, installed and operated in strict accordance with all related start-up instructions on the system, and with all related directives of the Installation and Operation Manual provided with the Enclosure Protection System.

Material Specifications

BODY COMPONENTS

Vent Body Cap:	0.032" 3003 Drawn Alum.
Vent Base:	A.S.E. 306, 308 Cast Alum.
Vent Mounting Hub:	Zinc Plated Steel
Vent Pipe Fittings:	Schedule 40 3003 Alum.
Vent Nameplates:	Lexan®
Fastener Hardware:	316 SS

EXHAUST ELEMENTS

Spark Arrestor (SA):	0.1" 100 Micron 316 SS
Element Cap:	0.25" 6061 Alum.

VALVE ASSEMBLY

Valve Base:	14 Ga. Machined 316 SS
Valve Seat Disc:	14 Ga. Machined 316 SS
Valve Hinge:	Zytel® 8018 - 14% Glass Fill
Valve Pin & Rivets:	316 SS
Disc Adhesive:	Urethane Epoxy

Lexan® is a registered trademark of the General Electric Company

Zytel® is a registered trademark of the DuPont Corporation

