

**REQUIRED ACCESSORIES
For All Rapid Exchange®
Purging Systems**

**OPTIONAL ACCESSORIES
For All Pressurization &
Purging Systems**

Description

Model EPV Enclosure Protection Vents are self-seating gravity controlled, low pressure relief valves which are designed to ventilate excessive enclosure pressures that are created by the Rapid Exchange® process, or the failure of enclosure pressure control devices. Each vent features a seamless cap, a spark arresting (SA) style or perforated guard (PG) 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 Bebcos Enclosure Protection 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 ds12.4. 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

Bebco Enclosure Protection Vents operate in a manner which is 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 of water \pm 0.1 inch. 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 Bebcos 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 of water pressure within the protected enclosure(s).*

* 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.

**MODEL EPV
SA & PG STYLE
ENCLOSURE PROTECTION VENTS**
EPS® Division Technical Bulletin EPV-R1.1 09/98



**Model EPV-1-SA-00
TOP MOUNT CONFIGURATION**



**Model EPV-3-SA-90
SIDE MOUNT CONFIGURATION**



Vent Specifications

Vent Dimensions:	See Rear Cover	
Shipping Weights (Lbs.):	-00	-90
	EPV-1: 3	4
	EPV-2: 3	4
-00: Top Mount	EPV-3: 4	5
-90: Side Mount	EPV-4: 7	9
	EPV-5: 10	12
Operating Temp. Range:	-20° F - 120° F	
Normal Operating Press.:	* 2" - 5" of Water	
Maximum Operating Press.:	** 5" - 7" 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.

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

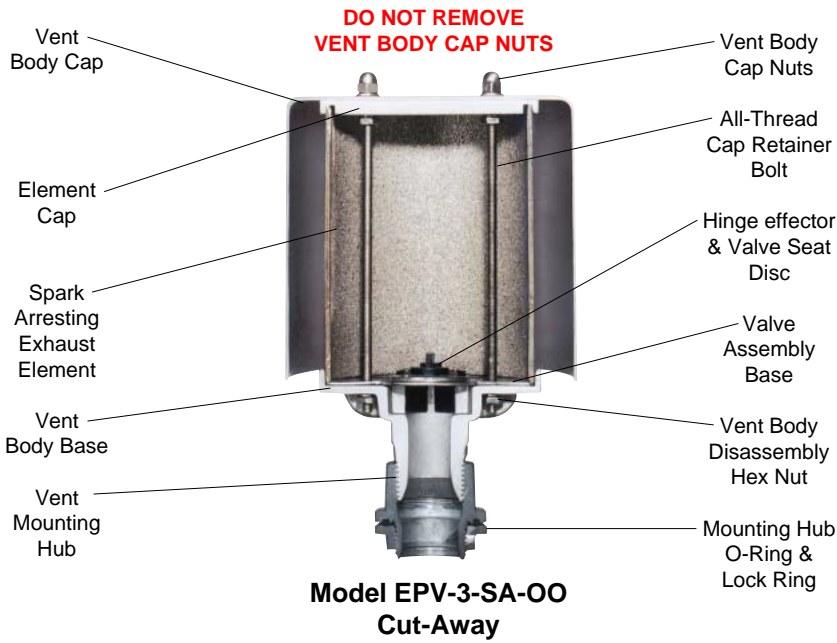
Spark Arrestor (SA):	0.1" 100 Micron 316 SS
Perforated Guard (PG):	0.0625" 316 SS
Element Cap:	0.25" 6061 Alum.

VALVE ASSEMBLY

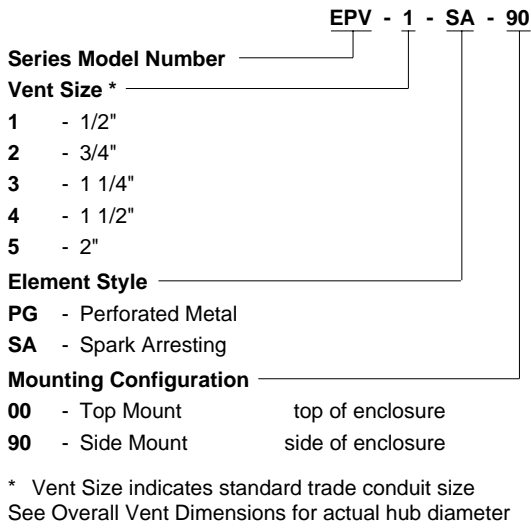
Valve Base:	14 Ga. Machined 316 SS
Valve Seat Disc:	14 Ga. Machined 316 SS
Valve Hinge:	Zytel® 8018 - 14% Glass Fill
Valve Pin & Rivets:	316 SS
Disc Adhesive:	Urethane Epoxy

Lexan® is a registered trademark of the General Electric Company
Zytel® is a registered trademark of the DuPont Corporation

Enclosure Protection Systems



Model Number Designations



FRICION-FREE VALVE ASSEMBLY

Bebco Enclosure Protection Vent Valve Assemblies are constructed from three major parts: the valve base, valve hinge and valve seat disc. The valve base is a machine ported flat plate which rests between the vent body base and exhaust element. The valve hinge is rivet fastened to the base and its effector extends over the valve port. The valve seat disc is screw fastened to the effector, under controlled, hand-fitted conditions, to obtain optimum valve seating characteristics.

SPECIAL NOTE

CUSTOM FINISHES ARE AVAILABLE FOR ALL ALUMINUM PARTS UPON REQUEST & INCLUDE, BUT ARE NOT LIMITED TO EPOXY OR POWDER COATING & CLEAR ANODIZE FINISHES.

CLASSIFICATION NOTES

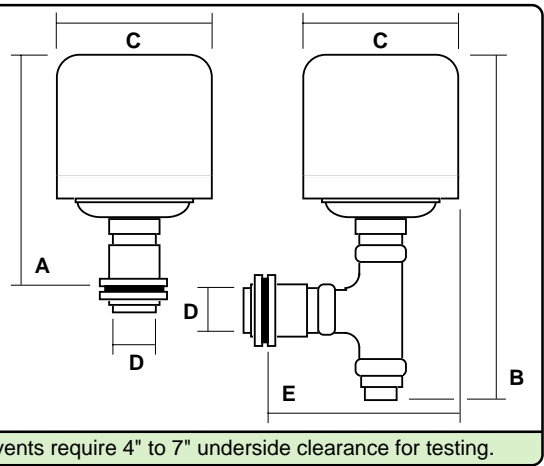
U.L. CLASSIFICATION & F.M. APPROVAL APPLIES TO SPARK ARRESTING (SA STYLE) VENTS FOR USE IN CLASS I, DIVISION 1, GROUP A-D LOCATIONS, AS SPARK ARRESTING DEVICES.

F.M. APPROVAL APPLIES TO SA & PG STYLE VENTS FOR USE AS ENCLOSURE OVERPRESSURIZATION PROTECTION DEVICES.

U.L. CLASSIFICATION & F.M. APPROVAL APPLIES TO SPARK ARRESTING (SA STYLE) VENTS, WITHOUT VENT VALVE ASSEMBLIES, FOR USE IN DILUTION APPLICATIONS.

Overall Vent Dimensions					
Vent Model	EPV-1	EPV-2	EPV-3	EPV-4	EPV-5
Hub Size	1/2"	3/4"	1 1/4"	1 1/2"	2"
A - Top Mnt. Hgt.	4.75	4.875	5.25	7	7
B - Side Mnt. Hgt.	7	7.375	8	11	11.5
C - Cap Diameter	4	4.625	5	8	8
D - Hub Diameter	0.875	1.125	1.75	2	2.5
E - Overall Width	4.25	5.25	5.5	9	9

Hub Size indicates standard trade conduit size. All other dimensions indicate inches. All vents require 4" to 7" underside clearance for testing.



REQUIRED USE INDICATES RAPID EXCHANGE® SYSTEMS WHICH REQUIRE A VENT FOR PROPER OPERATION
OPTIONAL USE INDICATES SYSTEMS WHICH REQUIRE A VENT OR REDUNDANT SUPPLY REGULATOR

Vent Compatibility & Flow Rate Chart				
Vent Model	Required Use	Optional Use	Normal SCFH	Max SCFH
EPV-1-PG		*11, *1011 & *1001A	619	1055
EPV-1-SA		11, 1011, 1001A & 2001A	568	1044
EPV-2-PG	*1012 & *1002		740	1290
EPV-2-SA	1012, 1002 & 2002		685	1202
EPV-3-PG	*1003	*1001B	1139	2078
EPV-3-SA	1003 & 2003	1001B & 2001B	1143	1971
EPV-4-PG	*1004	*1001C	2979	4438
EPV-4-SA	1004 & 2004	1001C & 2001C	2510	4387
EPV-5-PG	*1005		4123	4563
EPV-5-SA	1005 & 2005		4280	4479

* PG style vents may be substituted on these systems in Type Z applications
Normal SCFH measured with enclosure pressure @ 3" of water. Max SCFH measured @ 7"

Local Sales Representative

IMPORTANT NOTES

Designed exclusively for EPS® Division Products.
No liability assumed for use in other applications.
All specifications subject to change without notice.
Warranty & Liability policies available upon request.