

EFB12 - Pressure / Vacuum relief valve end of line



DESCRIPTION

The EFSB12 pressure/vacuum relief valves protect tanks and inline systems (EFSB15) from damage caused by overpressure or excessive vacuum. They reduce evaporation losses, support sustainable construction, and enhance fire protection and safety by retaining toxic vapors. Versatile and environmentally friendly, these valves ensure efficient and resinsoluble industrial processes.

BENEFITS

Less need for special materials in corrosive and extreme temperature
Unique floating diaphragm construction assures tight seal
Peripheral and stem guided vacuum pallet assures reliable operation
Pallet contributes to high flow
Heavy duty construction, yet compact enough for easy handling

FEATURES

Modular Construction

PTFE Membrane

Soft Seat

End Offline/Inline design

Weight loaded / Spring loaded

STD API 2000

TECHINCAL DETAILS

Model	B 12A weight loaded	B 12B Spring loaded
Size	2" to 12"	DN50 to 300*
Pressure Range	B 12A	2,45-68 webers / 25 / 700 mmH2O
	B 12B	68-784 webers / 700 / 800 mmH2O
Material	Carbon steel, Stainless steel, Duplex & Superduplex*, Aluminium *	
Ends	Flanged RF-FF	ASME B 16.5 EN?
Finishing	Painting, Coating*, PTFE Lined*, PTFE Coated	
Accessories	Bug Screen	
System	Combination with Flame Arrester*	

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PRODUCT DESCRIPTION

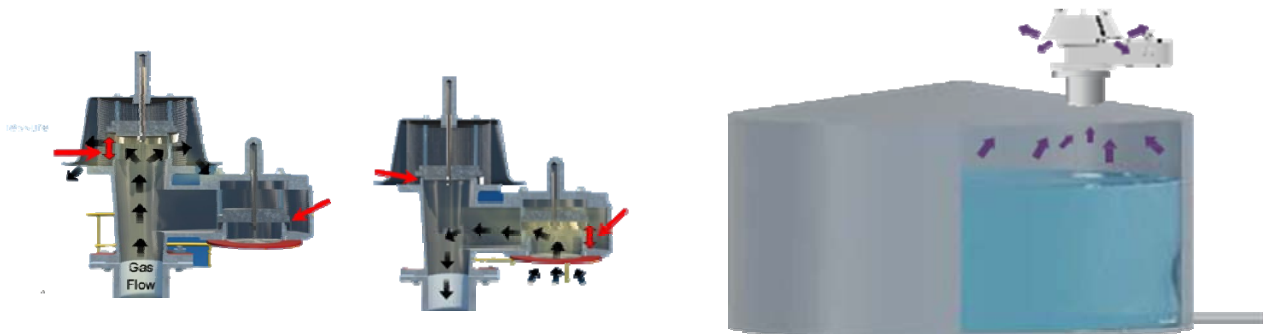
The pressure / vacuum valve is a protection device mounted on a nozzle opening on the top of a fixed roof atmospheric storage tank. Its primary purpose is to protect the tank against rupturing or imploding.

Without an opening or a controlled opening, a fixed roof atmospheric tank would rupture under increasing pressure caused by pumping liquid into the tank or as a result of vapor pressure changes caused by severe thermal changes. Imploding, or the collapsing of a tank, occurs during the pumping out procedure or thermal changes. As the liquid level lowers, the vapor space pressure is reduced to below atmospheric pressure. This vacuum condition must be alleviated through a controlled opening on the tank. In short, the tank needs to breathe in order to eliminate the possibility of rupturing or imploding. Because of its primary function, a vacuum valve is commonly referred to as a "breather valve".

HOW PRESSURE / VACUUM RELIEF VALVE OPERATE

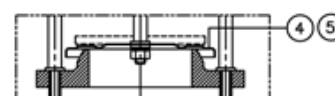
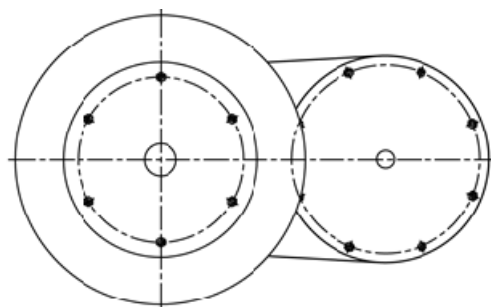
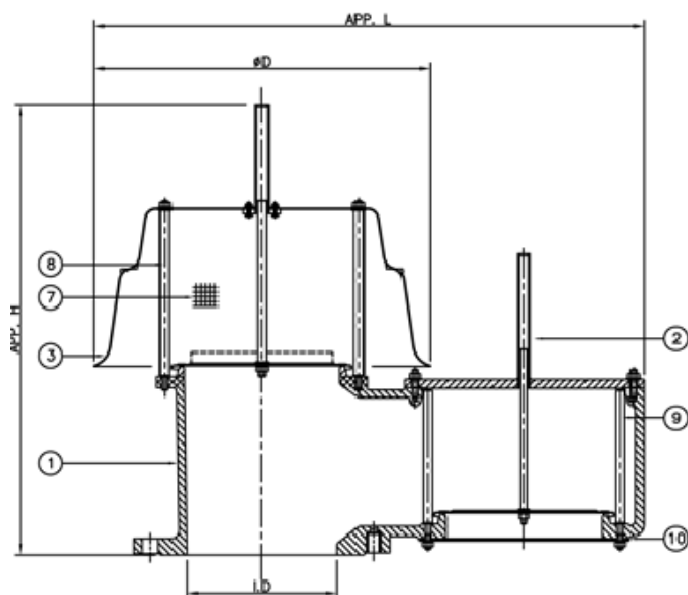
How does a pressure/vacuum valve operate? Most atmospheric tanks require a venting device that will allow large volumes of vapor to escape under relatively low pressures. Usually the allowable set pressure is in inches of water column pressure, both for positive and vacuum conditions. This is because most large storage tanks have a relatively low maximum allowable working pressure. These tanks are generally large volume welded vessels that are built to API650 standard.

In order to accommodate large volumes at low set pressures, these valves have ports that are greater in area than the inlet or nozzle connection. The low setting required necessitates weight loading the valve as opposed to spring loading. Because of the above, a pressure / vacuum valve requires approximately 100% over set pressure in order to reach full opening of the valve. However, when deciding on a set pressure the weight-loaded valve operation MAWP should be at least twice the required set pressure to obtain optimum flow. If the MAWP is less than 100% above the required set, the valve could be larger in size than normally required. The possibility of valve chatter and accelerated seat and diaphragm wear will exist if less than 20% over pressure is allowed. Simply stated, a pressure/vacuum valve is not exactly like a high pressure safety relief valve and should not be sized at 10% or 20% over pressure. When sizing a pressure/vacuum valve, consult the manufacturer flow curves and allow sufficient overset pressure.



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MATERIALS



● PRESSURE SIDE
● VACUUM SIDE

TEFLON SEAL TYPE



— PRESSURE SIDE
— VACUUM SIDE

METAL SEAL TYPE

REF.	PART	MATERIAL	
		ANSI / ASTM	DIN / EN
1	Body	S. S. (AISI 304)	S. S. (1.4308)
		C.S. (A216WCB)	C.S. (1.6019)
		S.S. (AISI 316)	S. S. (1.4408)
2	Vacuum cover	S. S. (AISI 304)	S. S. (1.4308)
		C.S. (A216WCB)	C.S. (1.6019)
		S.S. (AISI 316)	S. S. (1.4408)
3	Hood	S. S. (AISI 304)	S. S. (1.4308)
4	Disc1	S. S. (AISI 304)	S. S. (1.4308)
		S.S. (AISI 316)	S. S. (1.4408)
5	Seal (diaphragm)	PTFE	
6	Disc2	S. S. (AISI 304)	S. S. (1.4308)
		S.S. (AISI 316)	S. S. (1.4408)
7	Screen mesh	S. S. (AISI 304)	S. S. (1.4308)
8	Pre. guide bar	S. S. (AISI 304)	S. S. (1.4308)
9	Vac. guide bar	S. S. (AISI 304)	S. S. (1.4308)
10	Vacuum mesh	S. S. (AISI 304)	S. S. (1.4308)

*Duplex / Superduplex ss.st on request

ACCESORIES



BRETHAER+FLAME ARRESTER



STEAM JACQUET



PTFE LINED

HOW TO ORDER

VALVE DATA

Tag	
Valve Type	Pressure relief / Vacuum relief or Pressure Vacuum Relief
Location	End of line / Tank(- Inline
Fluid	
Setting pressure	mbar /(mmH2O WG)
Setting vacuum	mbar /(mmH2O WG)
Overpressure %	(limit after valve opening, 20%. 50% etc.)
Overvacuum %	(limit after valve opening, 20%. 50% etc.)
Flow capacity	m3/h

HOW TO ORDER

TANK DATA

Diameter	[m]
Height	[m]
Width	[m]
Length	[m]
Filling	[m³/hr]
Discharge	[m³/hr]
Pressure	[mmH2O]
Vacuum	[mmH2O]
Tank capacity	[m³]
Thermal in-breathing	[m³/hr]
In-breathing due to discharging	[m³/hr]
Total in-breathing	[m³/hr]
Required venting capacity	



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Rev 07/23