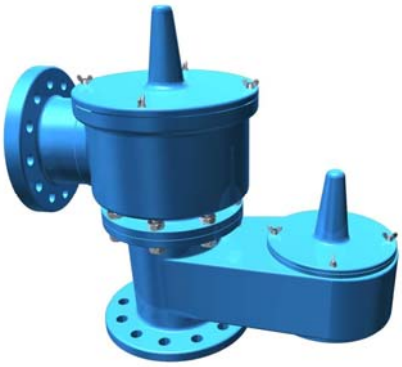
# EFB15 – Pressure / Vacuum relief valve inline



## DESCRIPTION

The EFSB15 pressure/vacuum relief valves protect inline systems and tanks/endof line (EFSB12) from damage caused by overpressure or excessive vacuum. They reduce evaporation losses, support sustainable construction, and enhance fire protection and safety by retaining toxic vaports. Versatile and enviornmentally friendly, these valves ensure efficient and resoinsible 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 Ofline/Inline design |
| Weight loaded / Spring loaded |
| STD API 2000 |

## TECHINCAL DETAILS

| | | |
|---|---|---|
| **Model** | B12A weight actioned | B12B Vacuum actioned |
| **Size** | 2" to12" | DN50 to 300* |
| **Pressure Range** | B12A | 2,45-68 webers / 25 / 700 mmH2O |
| | B12B | 68-784 webers / 700 / 800 mmH2O |
| **Material** | Carbon steel,Stainless steel, Duplex & Superduplex*, Aluminium * | |
| **Ends** | Flanged RF-FF | ASMEB 16.5 EN? |
| **Finishing** | Painting, Coating*, PTFE Lined*, PTFE Coated | |
| **Accessories** | Bug Screen | |
| **System** | Combination with Flame Arrester* | |

http://www.efsvalves.com

Barcelona Sales office:
Rambla Josep Maria Jujol nº42, local 2.
08970 Sant Joan Despí. Barcelona (SPAIN)
Tel.: +34 93 1599852. Mail: info@efsvalves.com

# EFB15 – Pressure / Vacuum relief valve inline

## PRODUCT DESCRIPTION

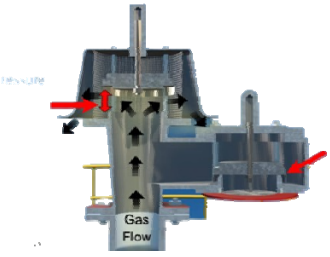
The pressure / vacuum valve is a protection device mounted on a nozzle opening on the top of a fixed roof atmospheric storage tank. Its primary purpose is to protect the tank against rupturing or imploding.

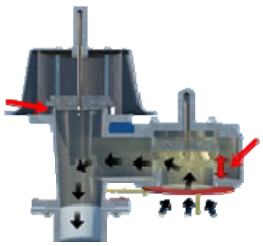
Without an opening or a controlled opening, a fixed roof atmospheric tank would rupture under increasing pressure caused by pumping liquid into the tank or as a result of vapor pressure changes caused by severe thermal changes. Imploding, or the collapsing of a tank, occurs during the pumping out procedure 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 than100% 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.



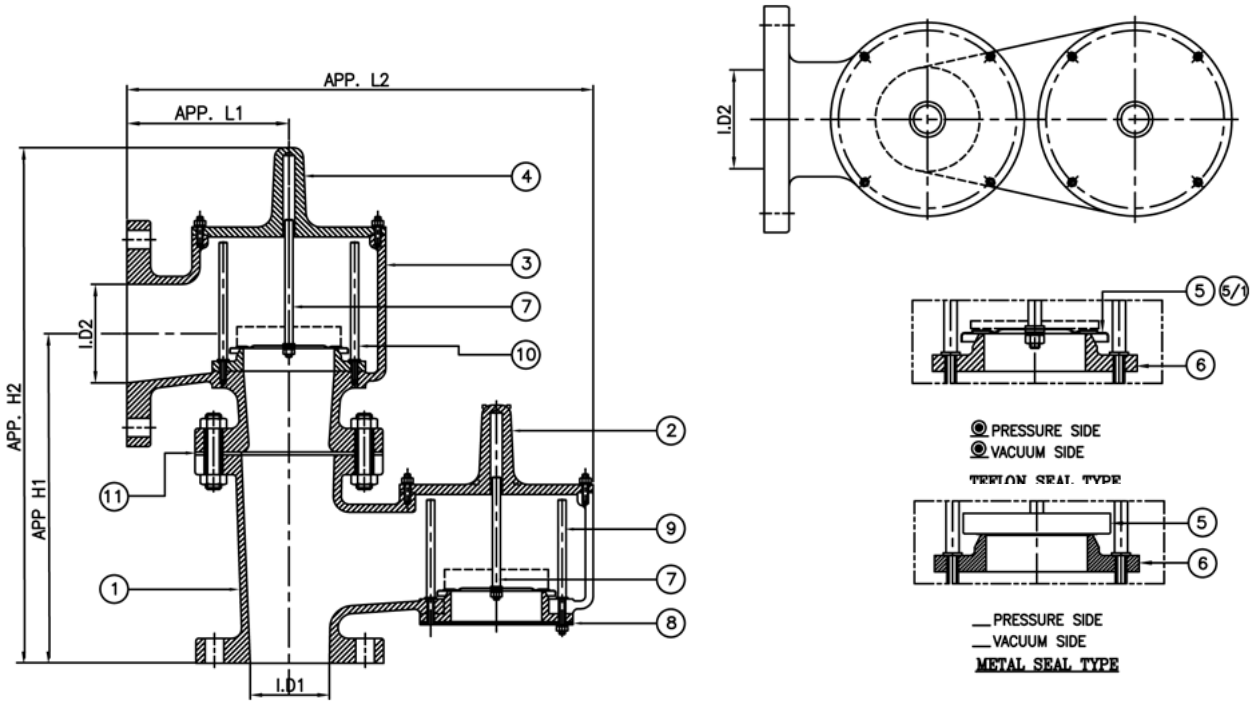



http://www.efsvalves.com

Barcelona Sales office:
Rambla Josep Maria Jujol nº42, local 2.
08970 Sant Joan Despí. Barcelona (SPAIN)
Tel.: +34 93 1599852. Mail: info@efsvalves.com

# EFB15 – Pressure / Vacuum relief valve inline

## MATERIALS




| REF. | PART | MATERIAL | |
|---|---|---|---|
| | | ANSI / ASTM | DIN / EN |
| 1 | Body(1) | S. S. (AISI 304) | S. S. (1.4308) |
| | | C.S. (A216WCB) | C.S. (1.6019) |
| | | S.S. (AISI 316) | S. S. (1.4408) |
| 2 | Cover(1) | S. S. (AISI 304) | S. S. (1.4308) |
| | | C.S. (A216WCB) | C.S. (1.6019) |
| | | S.S. (AISI 316) | S. S. (1.4408) |
| 3 | Body(2) | S. S. (AISI 304) | S. S. (1.4308) |
| | | C.S. (A216WCB) | C.S. (1.6019) |
| | | S.S. (AISI 316) | S. S. (1.4408) |
| 4 | Cover(2) | S. S. (AISI 304) | S. S. (1.4308) |
| | | C.S. (A216WCB) | C.S. (1.6019) |
| | | S.S. (AISI 316) | S. S. (1.4408) |
| 5 | Disc | S. S. (AISI 304) | S. S. (1.4308) |
| 05-ene | Diaphragm) | PTFE | |
| 6 | Seat | S. S. (AISI 304) | S. S. (1.4308) |
| 7 | P/V guide bar | S. S. (AISI 304) | S. S. (1.4308) |

| | 2”x3” | 3”x4” | 4”x6” | 6”x8” | 8”x10” | 10”x12” | 12”x14” |
|---|---|---|---|---|---|---|---|
| I.D1 [mm] | 50 | 80 | 100 | 150 | 200 | 250 | 350 |
| I.D2 [mm] | 80 | 100 | 150 | 200 | 250 | 300 | 400 |
| H1 [mm] | 264 | 285 | 328 | 387 | 463 | 549 | 758 |
| H2 [mm] | 434 | 480 | 615 | 729 | 781 | 907 | 1159 |
| H2 [mm] | 150 | 160 | 217 | 238 | 253 | 298 | 330 |
| H2 [mm] | 400 | 472 | 535 | 665 | 785 | 330 | 1025 |


http://www.efsvalves.com

Barcelona Sales office:
Rambla Josep Maria Jujol nº42, local 2.
08970 Sant Joan Despí. Barcelona (SPAIN)
Tel.: +34 93 1599852. Mail: info@efsvalves.com



| 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) |
| **Settinmg 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** | |


Barcelona Sales office:
Rambla Josep Maria Jujol nº42, local 2.
08970 Sant Joan Despí. Barcelona (SPAIN)
Tel.: +34 93 1599852. Mail: info@efsvalves.com