

## Pressure/Vacuum Relief Valves



### Application:

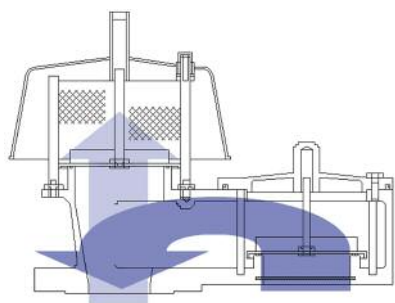
Direct acting pressure / vacuum relief valves, or breather valves are special types of relief valves which are specifically designed for tank protection. The range includes pressure only, vacuum only and combined pressure / vacuum valves, all available with flanged outlets or vented to atmosphere. Pressure / vacuum relief valves are used extensively on bulk storage tanks, including fixed roof tanks with floating covers, to minimise evaporation loss. The valves prevent the build up of excessive pressure or vacuum which can unbalance the system or damage the storage vessel.

### Principle of Operation

The valves have a cast body which is flanged for connection to the storage tank. A weather hood protects the pressure exhaust port and a mesh cover is fitted to prevent the ingress of foreign matter for valves vented to atmosphere.

Piped-away versions are also available throughout the range.

Both the pressure and vacuum sides of the valve incorporate a pallet and diaphragm assembly which rest on an 'O' ring seal to prevent leakage. This 'O' ring can be removed and the seat machined optically flat, producing a metal to metal seating arrangement if required. The weight of the pallet pushes the diaphragm against the seat to keep it closed. When the pressure or vacuum increases, the pallet and diaphragm lifts and air/gas is allowed to flow.



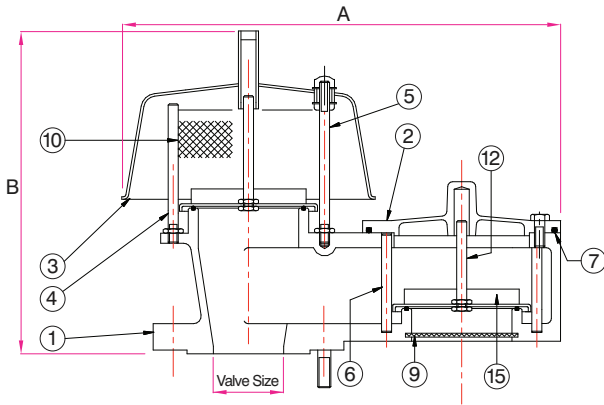
### Benefits

- Pressure / vacuum relief valves provide high gas flow from a compact valve size
- Range of sizes and materials to suit a wide range of applications
- Wide range of pressure and vacuum settings to provide maximum tank protection whilst ensuring minimum gas loss
- Valve sizing service assists optimum valve performance/cost specification

### Elmac Expertise

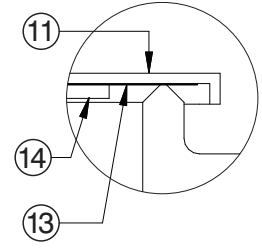
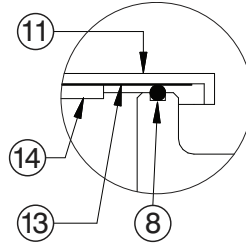
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# Pressure/Vacuum Relief Valves



'O' Ring Seat

Solid Seat



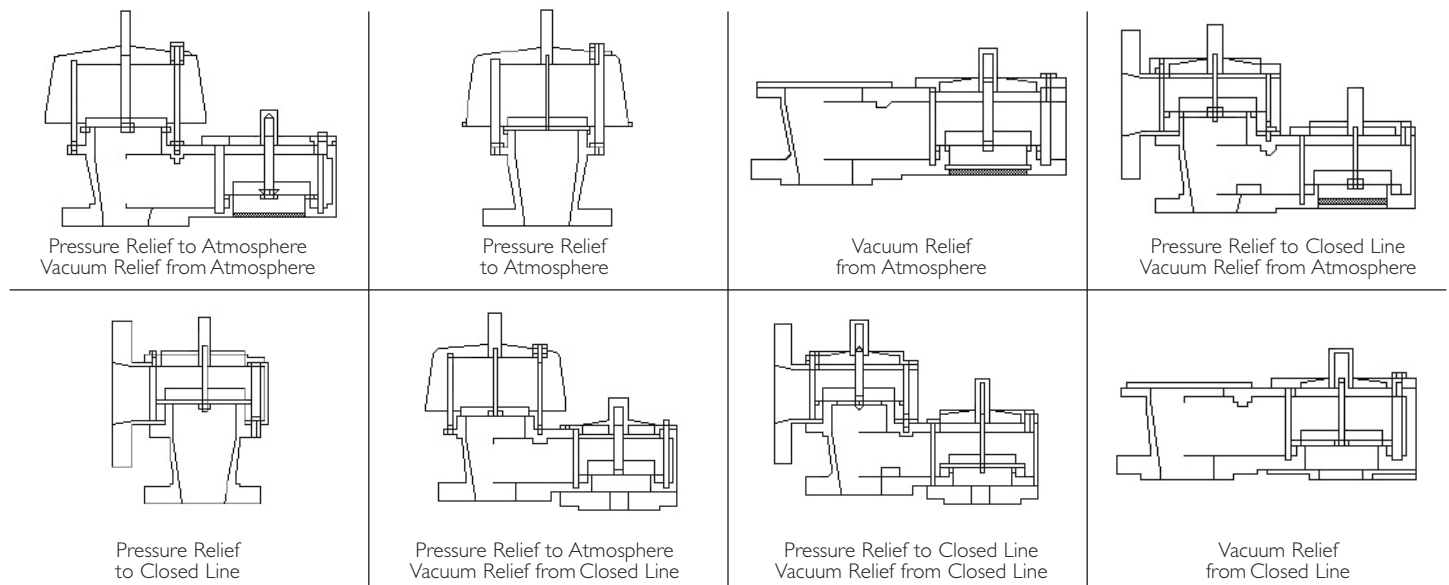
## Materials & Options

Ref	Description	Materials / Options
1	Body	Aluminium, Cast Iron, Carbon Steel, Stainless Steel, Special (Available on request)
2	Cover	Aluminium, Cast Iron, Carbon Steel, Stainless Steel, Special (Available on request)
3	Hood	Aluminium, Carbon Steel, Stainless Steel
4, 5	Pressure Guide Post	Stainless Steel, Special (Available on request)
6	Vacuum Guide Post	Stainless Steel, Special (Available on request)
7, 8	'O' Ring	PTFE, Nitrile Rubber, Viton, Special (Available on request)
9, 10	Mesh	Stainless Steel, Special (Available on request)
11	Pallet	Aluminium, Stainless Steel, Special (Available on request)
12	Pallet Stem	Stainless Steel, Special (Available on request)
13	Diaphragm	PTFE, Viton, Special (Available on request)
14	Retaining Disc	Stainless Steel, Special (Available on request)
15	Weights	Lead, Stainless Steel, Special (Available on request)
Connection	Flange	ANSI 150#, PN16, Special (Flange drilling as required)

Pressure & Vacuum Settings		Low flow from				High flow to		
Dead Weight Valves		0.865" w.c. (2.15 mbar)				30" w.c. (75 mbar)		
Spring Loaded Valves		28" w.c. (70 mbar)				1405" w.c. (3.5 bar)		
Valve Size		2"	3"	4"	6"	8"	10"	12"
A (mm)		362	417	465	602	721	914	1111
B (mm)		254	273	327	423	460	597	737
Width (mm)		213	267	305	416	457	590	722
Approx Wt (kg)*	Aluminium	6	8	12	20	33	50	66
	Carbon/Stainless Steel	19	29	40	52	80	137	185

\*Does not include pallet weights for pressure/vacuum control

## Pressure / Vacuum Relief Valve Variations



## Customer Support Team

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