

Ordinary spring loaded pressure relieve valves which open at a predetermined pressure are of no use in relieving the high surge pressures encountered during in Water Hammer.

The main reasons are that they are extremely slow in opening and they close down when they encounter a negative pressure. The Water Hammer surge consists of a series of quickly alternating waves of very high pressure and low pressure.

To counter the Water Hammer surge what we need is a valve that opens quickly and sucks in air into the pipeline but does not allow this air to escape on encountering a positive pressure wave. The slow closing ensures that the subsequent positive pressure waves are damped by the action of the entrapped air.

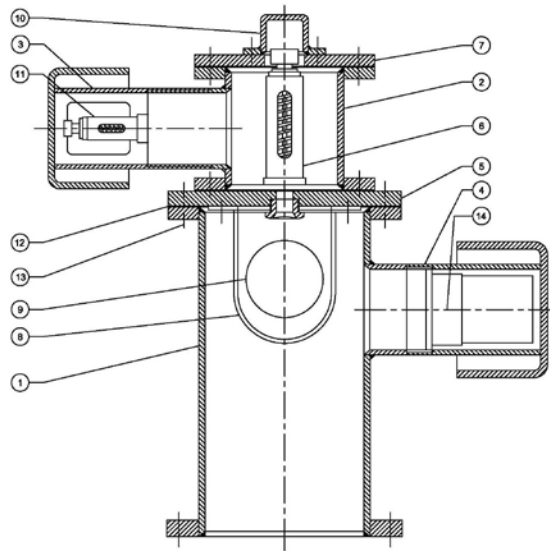
In our Air Cushion Valve, the quick opening is achieved by a spring loaded air inlet port. The spring is designed to open at a preset pressure differential. The slow closing is achieved by using an orifice to expel the air at a controlled pressure and rate. The orifice effectively behaves like a pneumatic damper. By adjusting the setting of the orifice, we can control the outflow rate of air from the valve.

All moving parts (shafts, bushes and stoppers) and the entire needle orifice are made of Stainless Steel. The rest of the body is a modular mild steel fabrication. The modular design allows for easy maintenance.



The sizes of ACV valves depend on the pipe diameters in the following manner:

- ACV - 100 : up to 300 mm. pipe dia.
- ACV - 150 : From 300 to 400 mm. dia .
- ACV - 200 : Above 450 mm. dia.



MATERIALS OF CONSTRUCTION

ITEM	DESCRIPTION	MATERIAL	SPECIFICATION
1	MAIN BODY	M.S./C.I./D.I.	IS:2062 Gr.A/IS:210 Gr.FG 200/DIN:1693 Gr.GGG-50
2	TOP HOUSING	M.S./C.I./D.I.	IS:2062 Gr.A/IS:210 Gr.FG 200/DIN:1693 Gr.GGG-50
3	OUTLET HOUSING	M.S.	IS: 2062 Gr.A
4	INLET HOUSING	M.S.	IS: 2062 Gr.A
5	CENTRAL PLATE	M.S.	IS: 2062 Gr.A
6	SCREW ADJUSTING VALVE	G.M.	IS: 318, LTB-2
7	TOP HOUSING COVER	M.S./C.I./D.I.	IS:2062 Gr.A/IS:210 Gr.FG 200/DIN:1693 Gr.GGG-50
8	CAGE	M.S./S.S.	IS:2062 Gr.A / AISI: 304
9	BALL / FLOAT	S.S./WOOD WITH RUBBER LINED	
10	CAP	M.S./C.I./D.I.	IS:2062 Gr.A/IS:210 Gr.FG 200/DIN:1693 Gr.GGG-50
11	SCREW ADJUSTING VALVE	G.M.	IS: 318, LTB-2
12	GASKET	RUBBER	IS: 638 Type-B
13	BOLTS & NUTS	CARBON STEEL	IS: 1367 CL-4.6 & 4.0
14	SCREW ADJUSTING VALVE	G.M.	IS: 318, LTB-2