

INFRA VALVE

**Air Cushion Valve (QRDA)
CL 10 / CL 15 & CL 20 Rating
Upto to 300 mm dia**

SURGE PROTECTION / VACUUM BREAKER



Innovative Flow Control Solution



Shree Krishna Industries

Manufacturers of all types of valves & fittings

An ISO 9001/2015 Company

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Air Cushion Valve (Quick Release Damped Air Valve)

Size Range 50mm to 300mm Dia
 Availability Flanged End
 Materials Cast Iron / M.S. IS 2062

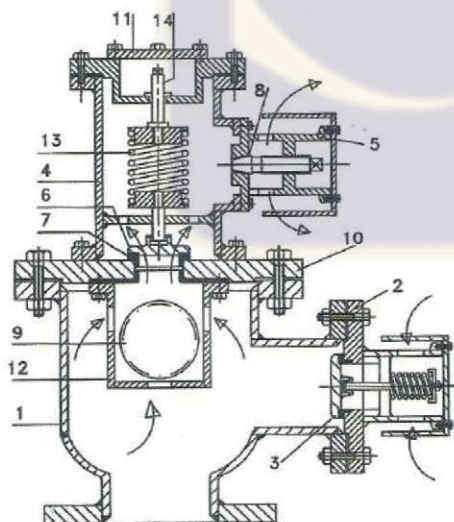


INFRA Air Cushion Valve is the device to prevent collapse of pipe as well as bursting during sudden stoppage of pump or valve etc. It nullifies the effect of "Water Hammer". Air Cushion Valve is provided with separate Inlet and Outlet for air. When a pumping machine suddenly stops due to any reason the water column travels forward due to its momentum. When the momentum is lost, it returns backward and exerts a pressure on non return valve/slucice valve. Then it again travels forward and backwards till the total energy is lost. During this process water column separates at various places creating vacuum. Air is required to fill the vacuum to prevent the pipe from collapsing in case of excess vacuum. When the water column returns back, it creates excessive pressure, which is the cause of water hammer. With the installation of **INFRA** Air Cushion Valve at places, where water column separation is likely to take place, sufficient air is inhaled at the time of water column separation. Once the air is taken in and the water column starts returning, the air inlet is closed. Air is then compressed in between separated water columns. When air compression creates sufficient pressure, Outlet valve opens allowing air to escape under pressure. The outlet is further controlled by orifice controlled Needle valve to limit the quantity of outgoing air. Thus the energy of water column is lost in expelling the air and an air cushion is formed in between the separated water columns. Due to this process the rejoining of water columns is very slow and increase in pressure at this moment is moderate.

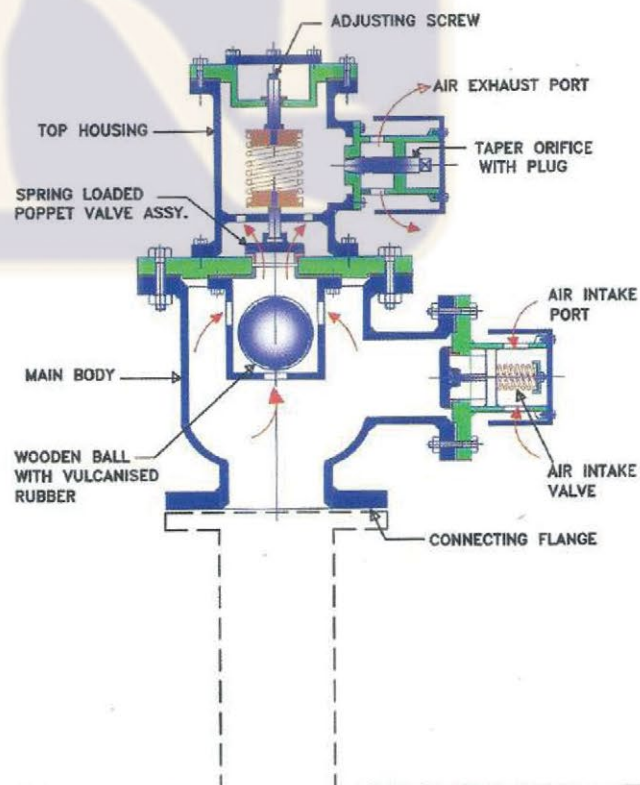
Working Principle of Air Cushion Valve

When The Pump Trips - As the separation occurs, air is taken in through air inlet port at low differential head. The air can be taken in, even in presence of water at low pressure to prevent development of negative pressure.

When water column returns - Air escapes port allows exit of air supply when pre-determined pressure is reached. The compressed air offers a 'CUSHION' to the returning water column. Controlled release of air ensures that the velocity of the returning column is reduced. Once all the air has escaped, the ball closes the passage and prevents water from leakage.



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|-------------------|-----------------------|
| 1. MAIN BODY | 8. AIR EXHAUST VALVE |
| 2. INLET HOUSING | 9. BALL FLOAT |
| 3. INLET VALVE | 10. DIAPHRAGM |
| 4. OUTLET BODY | 11. TOP COVER |
| 5. OUTLET HOUSING | 12. CAGE |
| 6. POPPET VALVE | 13. SPRING |
| 7. SEAT/SEAL | 14. OUTLET ADJUSTABLE |



Size, material construction and pressure rating :

Size 50 to 300mm NB	Material of Construction			
	Cast Iron (IS:210)	Carbon Steel (IS:2062)		
Body Test Pressure	10/16 Kg/Sq.Cm.	16 Kg/Sq.Cm.	20 Kg/Sq.Cm.	25 Kg/Sq.Cm.