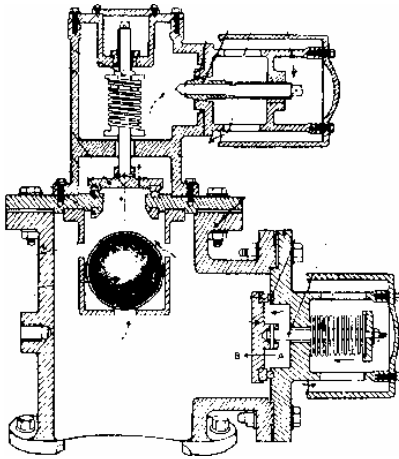


# HWE AIR CUSHION VALVE

HWE 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 Outlets 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 backwards and exerts a pressure at non return valve/slucie valve. Then it again travels forwards 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 HWE 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.

**Manufactured by:**

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