AWSPV Air & Water Surge Protection Valve

The AWSPV valve offers air, surge and vacuum protection as a custom built solution for installation at the top of a riser in a building to reduce the potential for hydraulic shock.

· Dampens effect of Water-Hammer at pump start-up
· Provides Vacuum Protection when the pump stops and the riser drains

Automatic Surge Protection

The unique AWSPV valve incorporates as standard, three design features to automatically protect building risers under all operating conditions, from the destructive surge and water hammer phenomena.

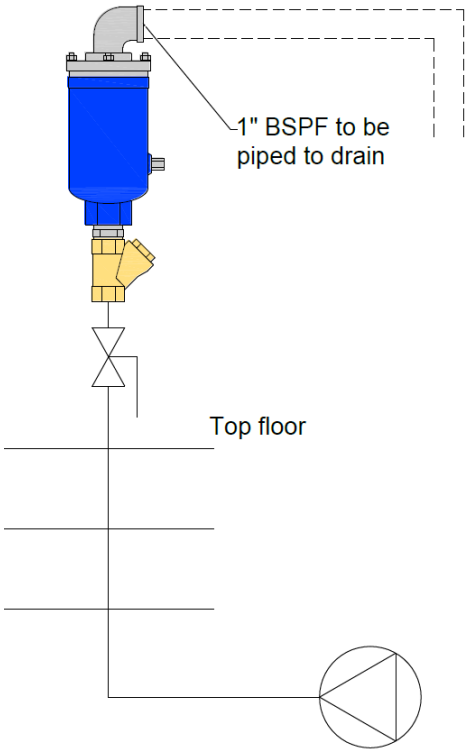
These features are independent of any mechanical devices ensuring reaction in a very low milli second time span.

Vacuum Protection

The AWSPV valve utilises the large orifice to admit air in the riser thus preventing vacuum occurring when the booster set is down (powered off).

Effective Air Release

During filling, air is forced through an "Anti-Surge" orifice resulting in the deceleration of the approaching water column due to the resistance of rising air pressure in the valve. This dampens potential pressure transients when the air valve closes. The AWSPV valve design, ensures effective de-aeration under all pipeline flow and operating conditions, via either one of three discharge orifices.



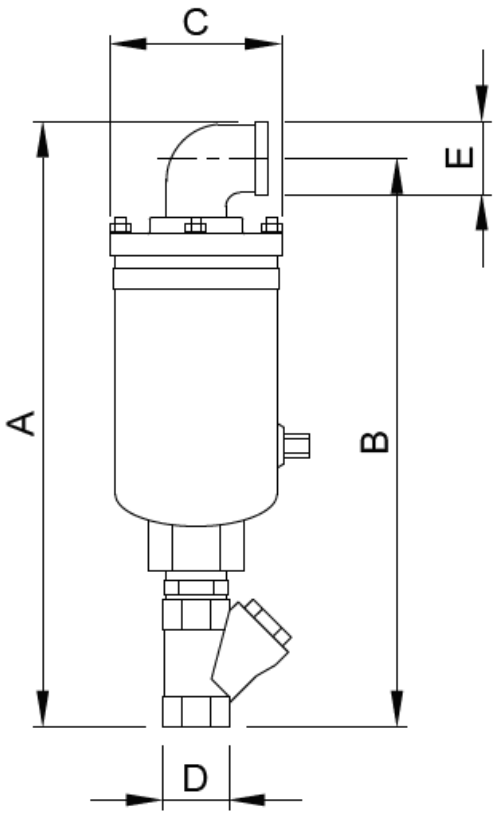
TYPICAL ARRANGEMENT

The AWSPV valve must be installed at the top of each riser to ensure adequate water-hammer protection.

An isolating valve should be installed to facilitate maintenance.

IMPORTANT NOTE

To ensure proper operation the system must be thoroughly flushed prior to the installation of the AWSPV valve.



Size—mm/in.	25 / 1”
Pressure rating	PN10*
A	337mm
B	317mm
C	95mm
D	1” BSPF
E	1” BSPF
Weight	4.6 kg
Max. riser pipe diameter	200mm**
WRAS No.	1507093
Min. pressure	0.3 Bar
Max. temperature	70°C/158°F
Min. temperature	4°C/40°F

* Versions rated at higher pressures up to PN40 available on request.

** The design, size and use of every cold water riser/distribution laterals is different for all buildings, hence to size a water/air surge protection valve correctly, the system should be evaluated to determine the maximum flow rate of air entering the system under vacuum conditions. In reality this is virtually impossible to estimate, so the figure stated is based on a maximum vacuum not exceeding 0.1 bar (riser draw down flow rate of approximately 55m³/hr.

System fill - We strongly recommend that all booster pump set control systems utilise a “system fill” feature to assist with controlled slow filling of a system after a power failure or if the system pressure drops below a pre-determined threshold. We can offer a retro fit solution for systems without this feature.