

Vortex Air Separator

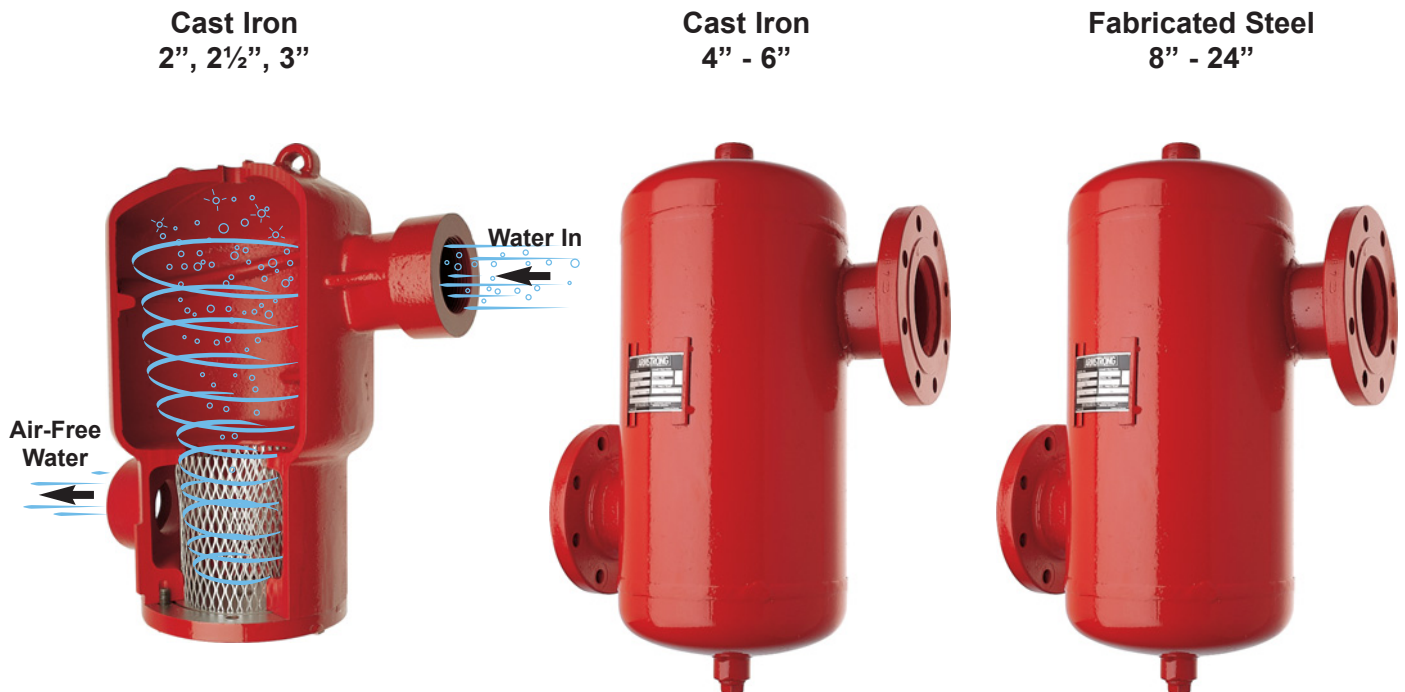
PRODUCT DATA SHEET

The Air Removal Requirement

Air is introduced to a hydronic system:

- During initial fill
- During routine equipment maintenance
- While maintaining system pressure
- In a cooling tower operation

Fill water at 50°F (10°C) can hold up to 9% entrained air at 30 psig (207 kPa). When heated up to 200°F (93°C), the water can hold up to 4.5% entrained air. The remaining 4.5% air is released into the system as air pockets, bubbles, and microbubbles, that can negatively impact the performance of fluid flow or heat transfer equipment.



How the Vortex Air Separator Removes Air

Circulating the water through the Vortex Air Separator creates a vortex or whirlpool action, sending the heavier air-free water to the outer portion of the tank and allowing the lighter air-entrained water mixture to move into the lower velocity center. At the centre of the vortex the air is released from the water forms bubbles and exits through an air vent or compression tank installed above. Instead of relying entirely on low velocity separation, the Vortex Air Separator offers the advantage of efficient separation in a much smaller tank.

The Benefits & Advantage of an Air Free System

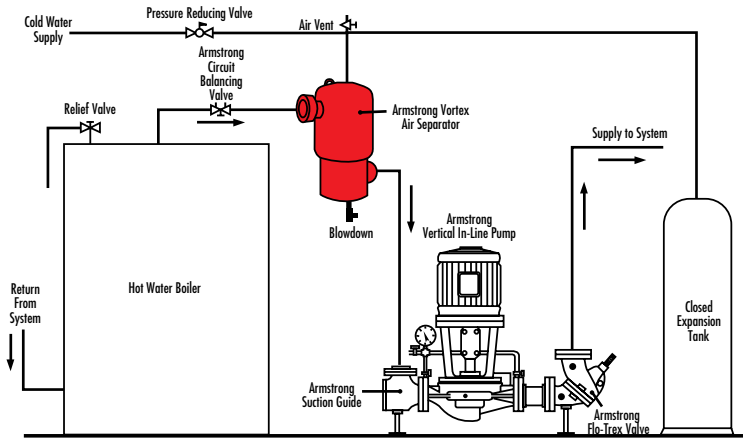
Air-free water flow means improved systems operation and lower operating costs.

The Vortex Air Separators eliminate entrained air from heating and cooling systems providing these benefits:

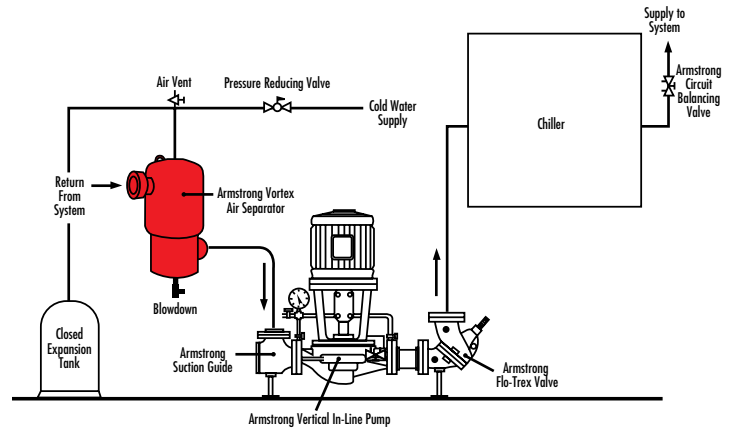
- Allows quick venting of air at start-up
- Reduces annoying noise caused by air entrained in the system
- Reduces service costs due to air-bound piping
- Extends the life of the system by reducing corrosion and erosion
- Improves heat transfer efficiency in boilers, fan coils, chillers, etc.
- Reduces the overall energy costs of your system
- Optimizes pump performance by reducing incidences of 'air lock'

Installation Schematics

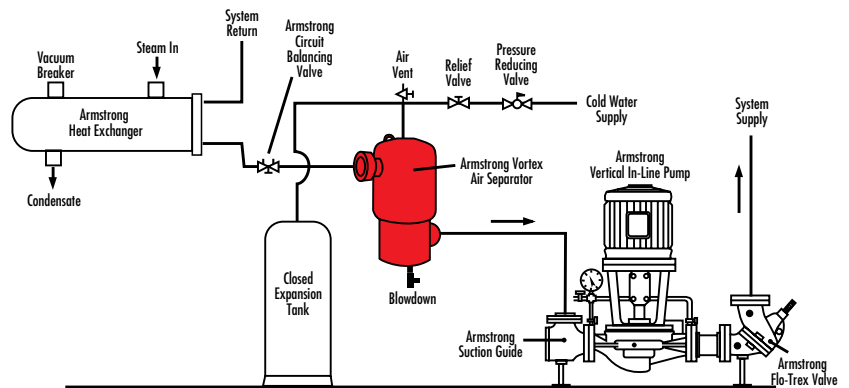
Vortex Air Separators should be installed at the highest temperature and the lowest pressure points in the system. Where this is not possible, the best location is at the point of highest temperature. Ideally, a separator should be located on the outlet side of the boiler, and the suction side of the pump.



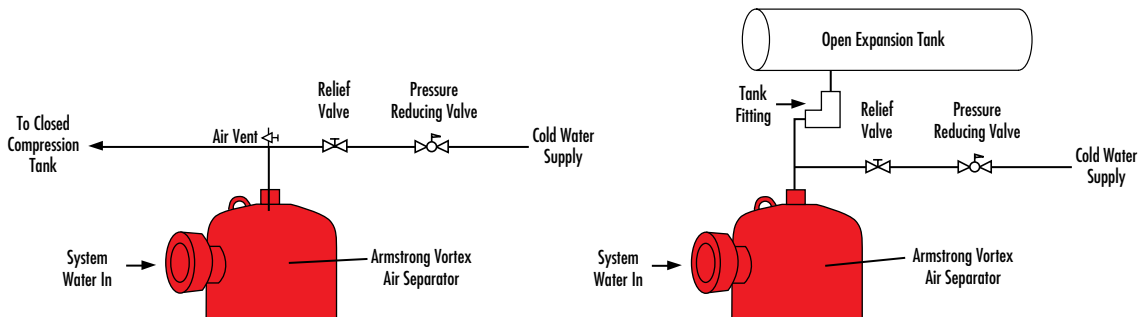
For Boiler Applications



For Chiller Applications



For Heat Exchanger Applications



Typical Piping Connections to an Air Separator

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