ARMSTRONG

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INSTALLATION AND OPERATING INSTRUCTIONS

Series DAS
Dirt & Air Separator

VESSEL DESCRIPTION
Armstrong Series DAS Dirt & Air Separators are designed to eliminate entrained air and separate debris associated with start-up and maintenance of any hydronic system. The design incorporates a removable end cover (optional) for coalescing medium access and an air vent (optional) to automatically release air from the separator. The design and construction conforms to ASME Section VIII, Div. 1 (excluding DAS-Q and DASH-Q models).

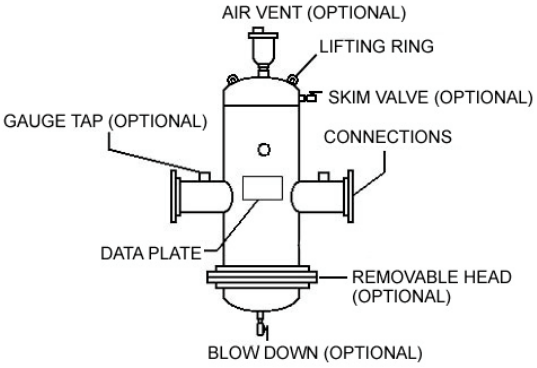

Fig. 1

FACTORY TESTING AND SHIPPING
The Series DAS has been factory tested and inspected prior to shipment. Upon receipt of the unit, carefully inspect the unit for damage that may have occurred during shipment. If the DAS has been damaged, it should be noted on the freight bill and reported to the carrier.

INSTALLATION
Ideally the installation of the DAS is at the point in the system where full water flow is at the lowest pressure and highest temperature. For optimum air elimination, it is at this point where free system air (bubbles) is at its highest concentration. Complete elimination of the free air at this location insures that dissolved air (air in solution) is at its lowest concentration. As the fluid leaves the DAS, and travels throughout the piping system, it will absorb a portion of any free-air that it contacts. This air-saturated water will then circulate back to the DAS where the low pressure/high temperature condition will drive this air back out of solution. This continuous air absorption and subsequent release and elimination by the DAS will ensure an air-free system.

It is recommended that the DAS be installed in the system piping prior to the primary system circulator/pump. For high-rise systems where static pressures are high, placement of the DAS should be as high in the system as practical.

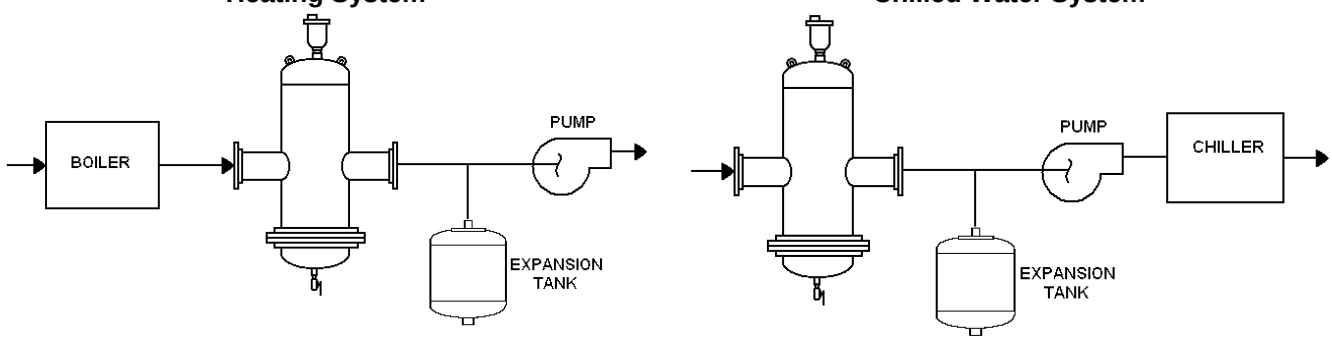

Fig. 2 Recommended Installations

Note: 100% of system flow should pass through the DAS to ensure all particles can be filtered.

OPERATION

All systems contain air in a dissolved state or as free air bubbles. Dirt particles, from multiple sources (piping fabrication, boiler or pump castings, welding beads, rust, etc.) also flow with the system water. As system fluid enters the DAS, air bubbles will rise to the top of the vessel to the vent location. Small, or sometimes referred to as micro-bubbles, will become trapped by the coalescing stainless steel media. With time, these bubbles will combine to form larger bubbles that will, over time as buoyancy overcomes surface tension, float to the top of the vessel to the vent location. Dirt particles are strained out by the enhanced surface stainless screen and collect at the vessel bottom. The debris is then periodically flushed out of the vessel through a blow-down valve. In removable base designs, the coalescing media can be removed and cleaned periodically.

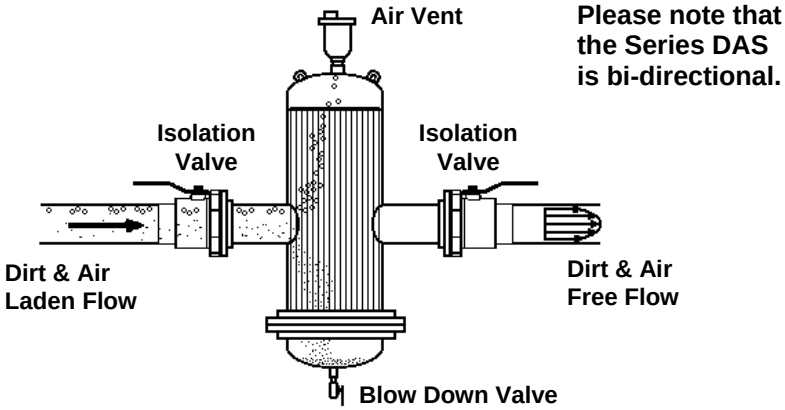

Fig. 3 DAS Working Configuration

MAINTENANCE

Air is eliminated automatically through the float-style vent. The vent should be periodically inspected to ensure optimum performance. If the vent used shows signs of continuous or intermittent leakage, or corrosion, it should be serviced or replaced.

During start up procedures, sediment should be removed frequently. The amount of sediment and the time of each blow-down should be recorded. As the amount of debris from blow-down diminishes, set a routine schedule to periodically blow-down the debris. If sediment builds on the coalescing screen, as evidenced though increased pressure drop, the screen can be removed. Inspect the screen cartridge periodically. Clean or replace if necessary.

WARNING: Standard units are not for use with potable water. Please consult factory for stainless steel option. For support recommendations, please reference local building code requirements

WARNING: The internal coalescing tubes are supported by the removable head. These tubes are not supported when the head bolts are removed.

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