



TANGENTIAL AIR SEPARATORS

FOR CLOSED HYDRONIC HEATING AND CHILLED WATER SYSTEMS

INSTALLATION & OPERATION INSTRUCTIONS

Models 1-AS(L) through 24-AS(L)



NOTE: Inspect for shipping damage and notify freight carrier or store where purchased immediately if damage is present. To avoid risk of personal injury and property damage, if the product appears to be malfunctioning or shows signs of corrosion, call a qualified professional immediately. Current copies of the Product manual can be viewed at www.amtrol.com. Use proper safety equipment when installing.



THIS IS THE SAFETY ALERT SYMBOL. IT IS USED TO ALERT YOU TO POTENTIAL PERSONAL INJURY AND OTHER HAZARDS. OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO REDUCE THE RISK OF PERSONAL INJURY AS WELL AS PROPERTY DAMAGE.

WARNING READ CAREFULLY THE PRODUCT INSTALLATION & OPERATION INSTRUCTIONS. FAILURE TO FOLLOW THE INSTRUCTIONS AND WARNINGS IN THE MANUAL MAY RESULT IN SERIOUS OR FATAL INJURY AND/OR PROPERTY DAMAGE, AND WILL VOID THE PRODUCT WARRANTY. THIS PRODUCT MUST BE INSTALLED BY A QUALIFIED PROFESSIONAL. FOLLOW ALL APPLICABLE LOCAL AND STATE CODES AND REGULATIONS, IN THE ABSENCE OF SUCH CODES, FOLLOW THE CURRENT EDITIONS OF THE NATIONAL PLUMBING CODE AND NATIONAL ELECTRIC CODE, AS APPLICABLE.

WARNING EXPLOSION OR RUPTURE HAZARD. THE EXPANSION TANK MUST BE OPERATED SO THAT THE PRESSURE DOES NOT EXCEED THE MAXIMUM WORKING PRESSURE.

WARNING Use only lead-free solder and flux for all sweat-solder connections, as required by state and federal codes.

CALIFORNIA PROPOSITION 65 WARNING! This product contains a chemical known by the State of California to cause cancer and to cause birth defects or other reproductive harm. (California Installer/Contractor - California law requires that this notice be given to consumer/end user of this product.) For more information: www.amtrol.com/prop65.html

WARNING This Product, like most Products under pressure, may over time corrode, weaken and burst or explode, causing serious or fatal injury, leaking or flooding and/or property damage. To minimize risk, a licensed professional must install and periodically inspect and service the Product. A drip pan connected to an adequate drain must be installed if leaking or flooding could cause property damage. Do not locate in an area where leakage of the tank or connections could cause property damage to the area adjacent to the appliance or to lower floors of the structure.

PLEASE READ THE FOLLOWING INSTRUCTIONS CAREFULLY

IMPORTANT GENERAL SAFETY INFORMATION - ADDITIONAL SPECIFIC SAFETY ALERTS APPEAR IN THE FOLLOWING INSTRUCTIONS.

Installation

1. Refer to Figures 1 and 2 for the proper installation of the AMTROL AS or AS-L series separator.

WARNING Wet weight of the separator can exceed strength of supports. Make sure provisions are made to support the wet weight and not just the dry weight (see weight chart below). Failure to follow these instructions could result in serious personal injury or death and property damage.

2. AS or AS-L sizes through the AS-8 or AS-L-8 can be supported in the piping system as long as pipe hangers are attached to the tangential nozzles as close to the units shell as possible. Sizes larger than the AS-8 or the AS-L-8 will need to have additional support, such as the stand provided on all units sizes AS-5 or AS-L-5 or larger. Factory installed seismic restraints are optional.

WARNING Welding to the pressure vessel boundary will void the ASME rating.

3. Model AS air separators have strainers, which must be removed and cleaned after 24 hours of operation, 30 hours of operation and as required to maintain proper air separation. Before installing the model AS refer to Figure 2 for minimum distances to be maintained between the blind flange and any wall or other obstruction for strainer removal.
4. A manual blowdown valve (MBV) can be added to the blowdown connection at the bottom of the tank. The function of the MBV is to facilitate the purging of sediment from the vessel.

Service Instructions

WARNING Leakage, corrosion or indications of damage are signs of an impending serious failure of the air separator. Periodically inspect for damage and if noted the separator must be serviced or replaced. Failure to follow these instructions could result in serious personal injury or death and property damage.

1. The strainer in the AS series separator may need to be cleaned periodically. This is particularly true during the initial start-up period. The need to clean the strainer will be evidenced by a high pressure drop across the separator or by pump cavitation problems. To clean the strainer:

A) Allow the system water temperature to cool below 100°F.

WARNING Water temperature above 100°F can be very hazardous. Allow system water temperature to cool down below 100°F before blowing down the separator. Failure to follow these instructions could result in serious personal injury or death and property damage.

B) Open the blowdown drain valve for a few seconds. This should dislodge accumulated dirt from the strainer. If it does not, then the strainer must be removed from the separator for cleaning. This can be accomplished by closing the isolation valve to isolate the separator from the system. Make sure the water temperature in the separator is below 100°F. Open the blowdown valve on the bottom of the separator to drain the unit. Make sure that all of the flow from the blowdown valve has stopped. If water continues to flow, the isolation valve must be repaired or replaced before proceeding.

WARNING System fluid under pressure and/or high temperature can be very hazardous. Before proceeding to service the strainer, reduce system pressure to zero and isolate the separator from the system. Allow system temperature to cool below 100°F. Failure to follow these instructions could result in serious personal injury or death and property damage.

C) Remove the flange bolts that hold the blind flange in place on the side of the tank. Remove the blind flange and slide the strainer out of the tank. Clean the strainer and reinstall in the separator. Replace the flange gasket with a new one and reinstall blind flange making sure that the flange bolts are tightened in a criss-cross pattern to 40-50 foot pounds. Close the blowdown valve and open the isolation valves to return to normal operation. Check the gasket for signs of leakage. If found, additional slight tightening of bolts may be required.

Suggested Piping Diagrams

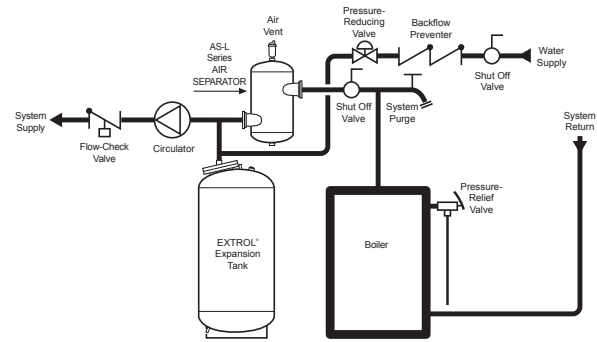


Figure 1. AS-L Series

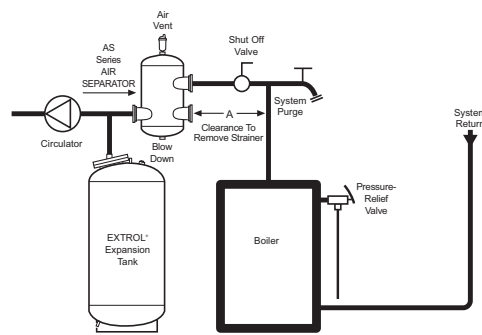


Figure 2. AS Series

Model Number	Maximum Flow Rate Based on Design Velocity			
	Velocity 4 ft./sec. (gpm)	Velocity 6 ft./sec. (gpm)	Velocity 8 ft./sec. (gpm)	Velocity 10 ft./sec. (gpm)
1-ASL	10	15	20	25
2-AS(L)	42	63	84	105
2½-AS(L)	60	90	120	150
3-AS(L)	93	140	185	230
4-AS(L)	160	240	320	400
5-AS(L)	250	375	500	630
6-AS(L)	360	540	720	900
8-AS(L)	630	940	1,250	1,580
10-AS(L)	990	1,500	1,980	2,470
12-AS(L)	1,400	2,100	2,800	3,500
14-AS(L)	1,680	2,500	3,350	4,200
16-AS(L)	2,200	2,800	3,500	5,000
19-AS(L)	3,300	4,200	5,200	7,500
20-AS(L)	4,500	5,600	7,000	10,000
24-AS(L)	5,500	7,000	8,800	12,500

Clearance to Remove Strainer	
Model Number	A (Inches)
2-AS	12
2½-AS	13
3-AS	15
4-AS	17
5-AS	22
6-AS	24
8-AS	30
10-AS	36
12-AS	45
14-AS	49
16-AS	59
18-AS	62
20-AS	70
24-AS	80

For optimum air elimination, maximum flow rate should be as close to 6 ft./sec. as possible.

Warranty

AS Series Models: One (1) Year Limited Warranty
Visit www.amtrol.com for complete warranty details.



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