



# TANGENTIAL AIR SEPARATORS

## FOR CLOSED HYDRONIC HEATING AND CHILLED WATER SYSTEMS

### INSTALLATION & OPERATION INSTRUCTIONS

Models 1-ASL 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](http://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](http://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.

**WARNING** THIS PRODUCT MUST BE INSTALLED BY A QUALIFIED PROFESSIONAL.

## Installation

1. Refer to Figure 1 for proper installation of the Amtrol AS or Figure 2 for the ASL air 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 may result in serious or fatal personal injury and/or property damage.

2. AS or ASL sizes through the 8-AS or 8-ASL can be supported in the piping system as long as pipe hangers are attached to the tangential nozzles as close to the unit's shell as possible. Sizes larger than the 8-AS or the 8-ASL will need to have additional support, such as the stand provided on all units, sizes 5-AS or 5-ASL 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 clearance chart 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.

## Maintenance

A qualified professional should check the complete system, including the air separator, yearly and more frequently as the system ages.

**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 immediately. Failure to follow these instructions may result in serious or fatal personal injury and/or property damage.

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:

1. Allow the system water temperature to cool below 100°F.
2. **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 may result in serious or fatal personal injury and/or property damage.
3. 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. Start by closing the isolation valve to isolate the separator from the system. Next, 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 may result in serious or fatal personal injury and/or property damage.

3. 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 Series

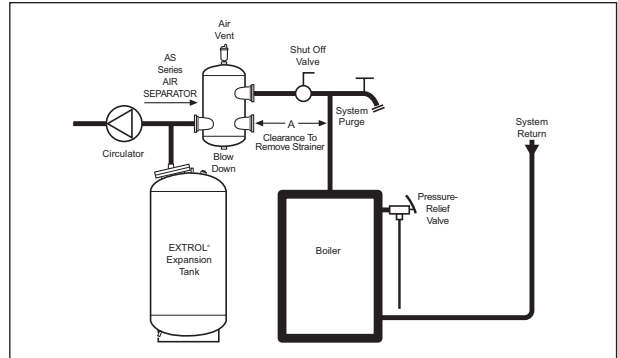
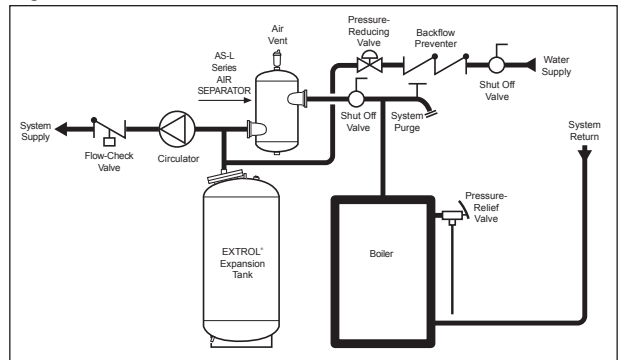


Figure 2: AS-L Series



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

Weight Chart		
Model Number	Dry Weight (lbs)	Wet Weight (lbs)
1-ASL	15	20
2-AS(L)	70	100
2½-AS(L)	70	110
3-AS(L)	75	140
4-AS(L)	80	195
5-AS(L)	180	400
6-AS(L)	250	575
8-AS(L)	455	1,175
10-AS(L)	770	2,075
12-AS(L)	1,150	3,200
14-AS(L)	2,200	4,800
16-AS(L)	4,300	7,275
18-AS(L)	4,900	10,300
20-AS(L)	5,600	12,375
22-AS(L)	6,500	13,950
24-AS(L)	8,000	23,250

## Warranty

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



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