

# TANGENTIAL AIR SEPARATORS

## INSTALLATION-OPERATION-MAINTENANCE

### SERIES TAS

For Parts and Service contact Penn Pump and Equipment Co., Inc.  
[www.pennpump.com](http://www.pennpump.com)

#### GENERAL INSTRUCTIONS

1. Tangential air separators are typically installed between the system boiler or heat exchanger and the system pump. See figure (2) for the recommended installation guidelines.
2. Sizes through 8" (inlet/outlet connection size) can be supported in the piping system if the piping system hangers are located under the inlet and outlet nozzles as close as possible to the outside diameter of the shell of the unit.
3. **IMPORTANT:** Larger sizes require additional supports. Optional factory welded support brackets are recommended for the 14" and larger sizes. See figure (1).
4. **WARNING:** The ASME Boiler and Pressure Vessel Code Section VII, Div. 1 does not permit any field modification to the pressure vessel after the ASME inspection process is completed. Welding to pressure retaining parts will void the ASME certification.
5. Factory installed lifting lugs are not designed to support the air separator in the piping system.
6. Air separators with strainers require periodic maintenance to ensure safe and efficient system operation. Minimum distances must be maintained between the strainer access cover plate and any other piping, wall, or other obstruction to allow for the safe removal of the strainer.
7. A manual blowdown valve may be added to the blowdown connection at the bottom of the tank. The blowdown valve facilitates the removal of sediment.
8. An automatic high capacity air vent is typically installed in the piping above the top of the air separator. The air vent is designed to release air that accumulates during normal system operation.

#### INSTALLATION INSTRUCTIONS

1. The inlet system piping must be connected to the opening at the top of the tank side wall. The outlet piping must be connected to the opening at the bottom of the tank side wall.
2. For TAS Series separators with strainers, removal and cleaning of the strainer assembly is recommended per the following schedule: 24 hours after system start-up, 30 days after system startup, and at periodic intervals (based on experience).

#### OPERATING / MAINTENANCE INSTRUCTIONS

1. Open the blowdown drain valve for a few seconds to remove loose sediment.
2. Increased pressure drop across the separator will typically indicate that the strainer needs to be serviced.  
To Service the Strainer:
  - (A). Allow the system water to drop below 100°F.
  - (B). Close the system shut-off valves to isolate the separator from the system.
  - (C). Open the bottom blowdown drain valve to remove the water from the unit.
  - (D). Remove the threaded cap or grooved end coupling from the strainer access opening and slide the strainer out of the separator.
  - (E). Clean the strainer and reinstall it in the unit. Replace the threaded cap or grooved end coupling.
  - (F). Close the blowdown valve, open the shut-off valves, and return the separator to normal operation. Check the strainer access coverage for leakage.

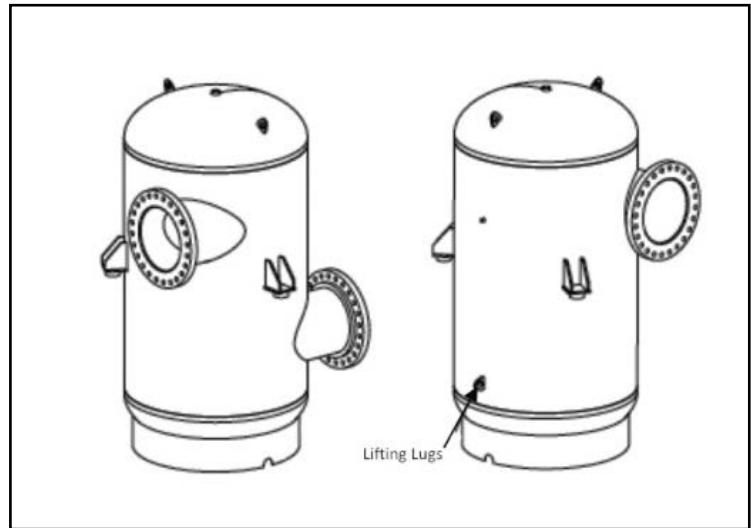


Figure (1)

**SPECIFY WITH CONFIDENCE, SPECIFY PENN PUMP SYSTEMS**

## TYPICAL INSTALLATION: AIR SEPARATOR AND EXPANSION TANK

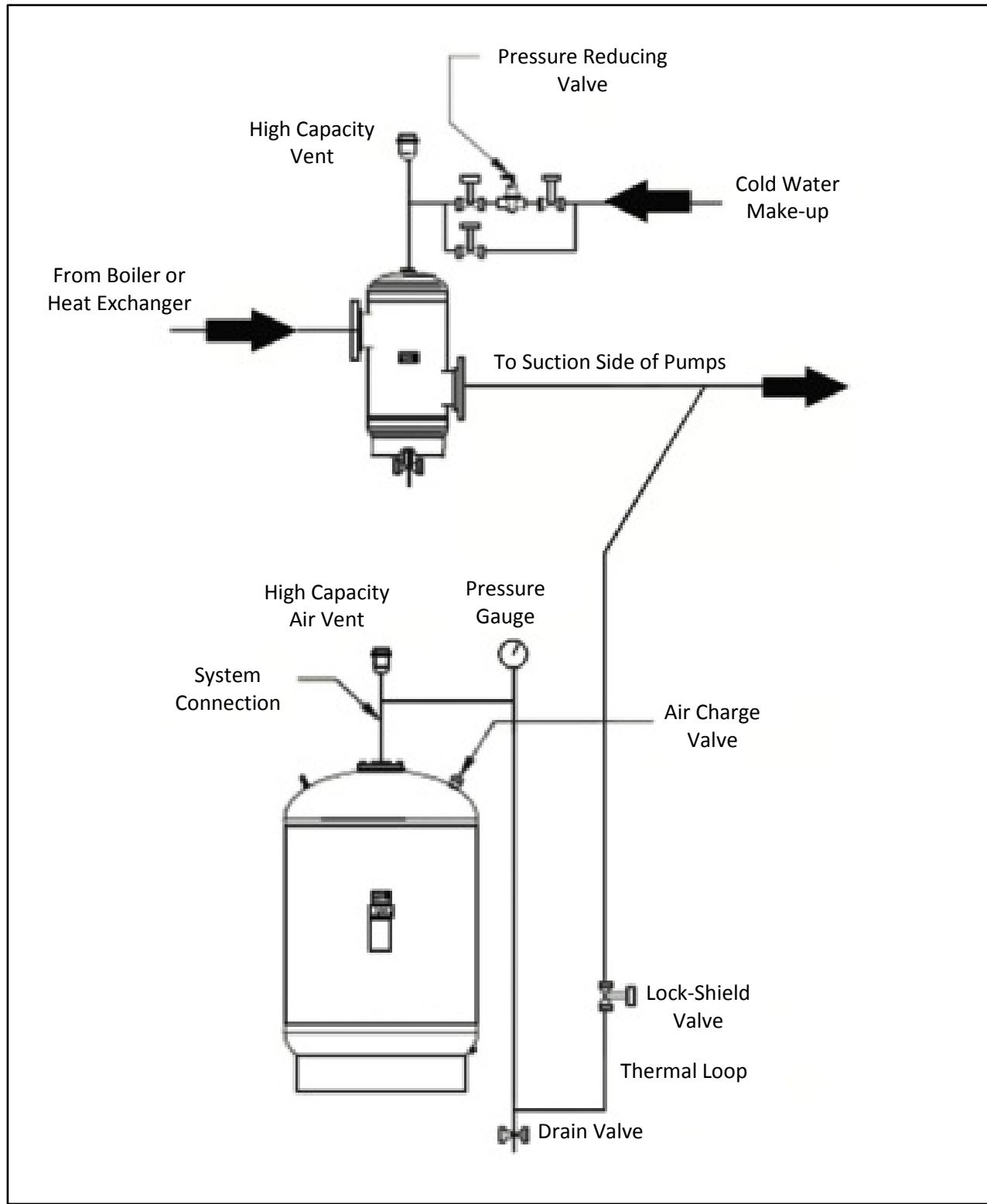


Figure (2)

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