



HVAC Tech Note #6 – May 2003

Air in Water

A significant amount of air can be added to a closed hydronic system with make-up water from a domestic supply. Fig. 3 on page 12.4 of the 2000 ASHRAE Systems Handbook graphs the solubility of air in water based on pressure and temperature. This graph shows that at 50° F and 60 psig an air/water solution can contain about 11% air by volume.

If, however, the water is stored at room temperature in a packaged system feeder tank that is vented to atmosphere (0 psig), the solution will contain less than 2% air by volume. This sharply reduces the amount of air and corrosive oxygen that gets added when make-up water is required for the life of the system. As side benefits, the water stored in the feeder tank can be pre-treated, and there need be no connection between the hydronic and potable water systems, eliminating any potential for cross-connection and the requirement for backflow prevention.

Axiom Industries Ltd. – Specialty Products for Hydronic Systems