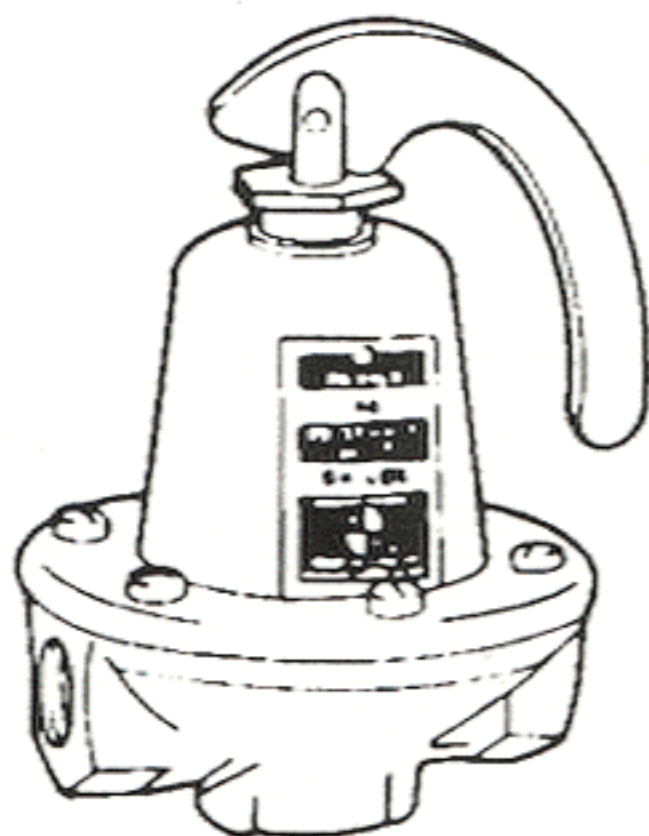


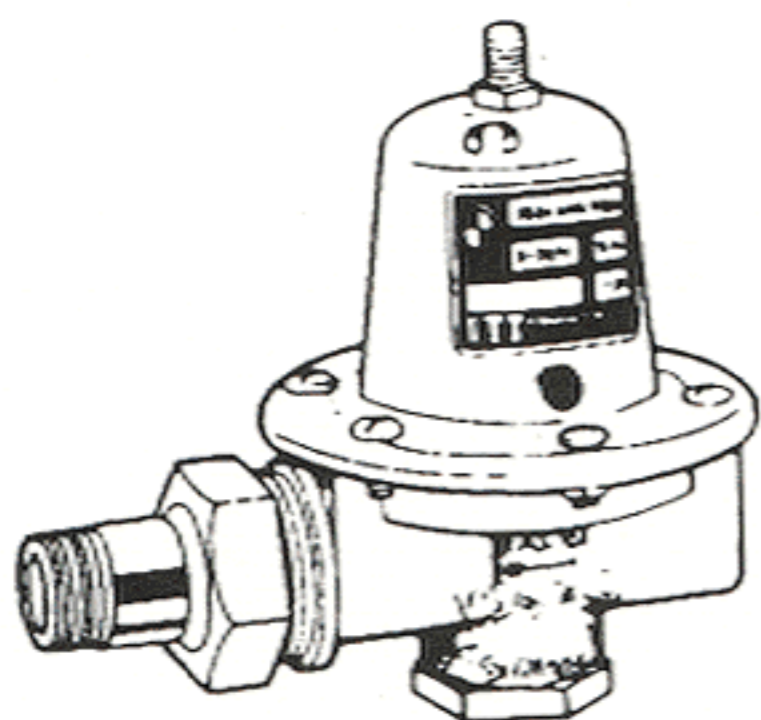
CounterPoint Ready References:

Relief valves:



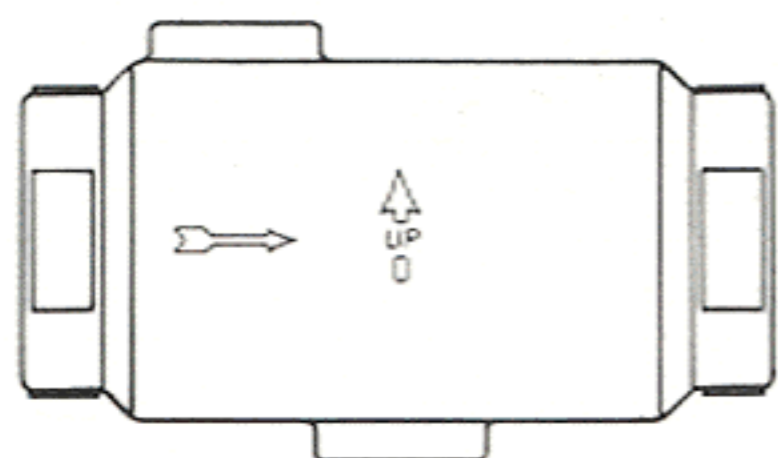
1. The pressure setting must match the boiler's maximum rated pressure.
2. The relief capacity must meet or exceed the boiler's D.O.E. Heating Capacity.
3. Pipe the relief valve directly into the boiler and never to the outside.
4. Treat relief valves with great care, and never reuse old relief valves.

Pressure Reducing (Feed) Valves:



1. Measure the vertical distance from the feed valve to the highest pipe in the system.
2. Divide the distance by 2.31 to convert feet to psi.
3. Add 3 psi and fill the system to this pressure.
4. Check the air-side pressure on the diaphragm tank, making sure it matches the required system fill pressure. Do this before you attach the tank to the system.

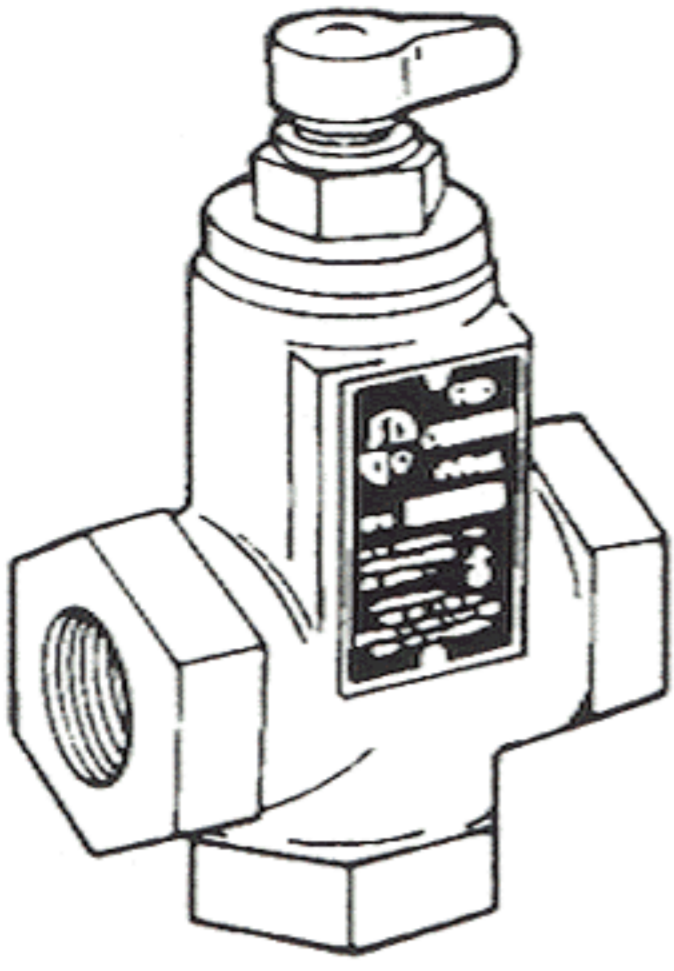
Air Separation



1. Install the air separator in a horizontal pipe on the supply side of the boiler, 18" away from the nearest fitting.
2. Use Airtrol Tank Fittings to prevent water-logging when using steel compression tanks.
3. Install the circulator on the supply side of the system, pumping away from the compression tank. The circulator's added pressure will drive free air into solution and make it easier to remove.

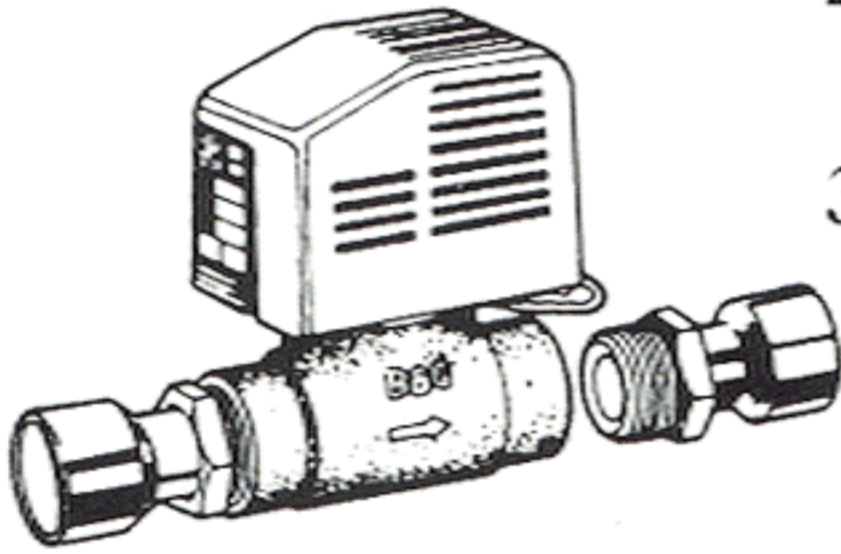


Flo-Control Valves



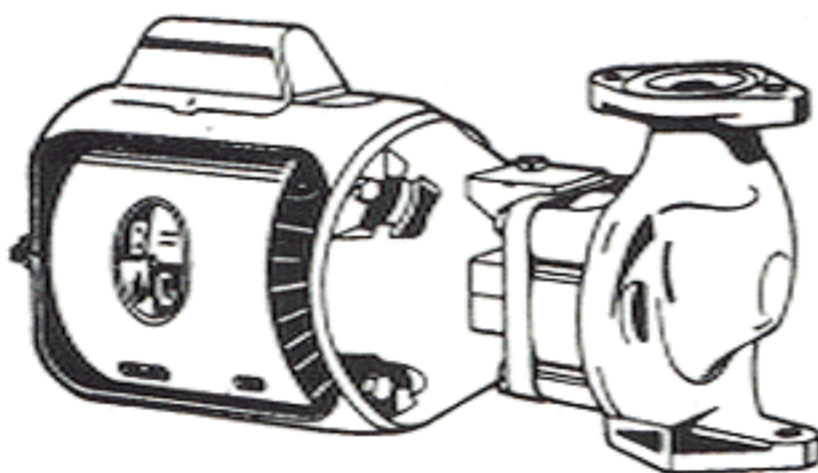
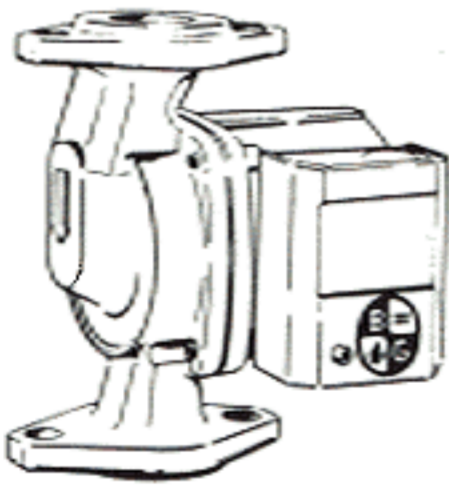
1. To prevent gravity circulation and reverse flow in the system, install Flo-Control valves on the supply side relatively close to the boiler.
2. You can get gravity circulation in a single pipe! You may need a second Flo-Control valve on the return to stop this.
3. Flush the system before starting it up to keep installation debris from lodging on the valve's seat.

Electric Zone Valves



1. Slow-closing zone valves are less likely to create water hammer noise in a closed hydronic system. (ComfortTrol is a slow-closing valve.)
2. Velocity noise (whistling) is most often caused by an over-sized circulator.
3. If you have more than three zones, use the Series 100 circulator. It moves more water and produces less velocity-creating head pressure than a high-speed, water-lubricated circulator.

Circulators



1. To get the required flow rate at a 20-degree temperature difference, divide the Btu/hr load by 10,000. The answer will be in gallons per minute.
2. To get the pump head, measure the distance from the boiler through the longest (or highest pressure drop) circuit. Allow six feet of pump head for each 100 feet of piping in this circuit.
3. The pH of the system water should be between 7 and 9.
4. The temperature of the water should never exceed 225 degrees F. for the Series 100 or 230 degrees F. for the Red Fox SLC.
5. Always use SAE-20, non-detergent oil for sleeve-bearing circulators and motors.