

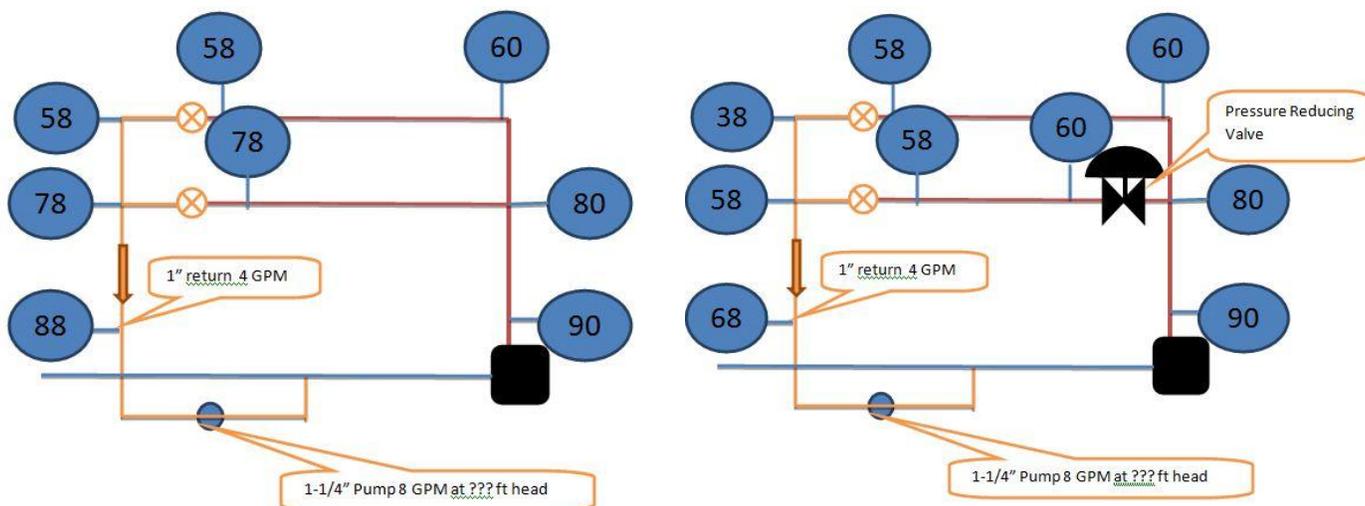
August 8th ~ Monday Morning Minutes:

## Plumbing Topic: Domestic Water Recirculation Systems Part 4

### High Rise Considerations

The last three articles outlined pump selection in domestic water recirculation systems. In general, these systems have low flow and low head pumps. What happens in a high rise with pressure reducing valves (PRV) in the hot water supply?

The pressure reducing valve introduces a fixed pressure drop which must be added to the calculations. Figure 1 shows a simple representation of a multistory system with a pressure reducing valve. Figure 2 shows the same system with the addition of the PRV to the system.



In order for this system to operate correctly in figure 1, the pump would need 2 PSIG or about 5 feet of head. When we add the pressure reducing valve in figure 2 there are two things that change. First, the 20 PSIG drop across the PRV must be added to the pump head. Our pump which required 2 PSIG or 5 feet now requires 2 PSIG plus 20 PSIG or 51 feet of head. Second, the balancing at the upper floors becomes very critical. If the upper floor balance valve is not throttled severely, most of the flow will bypass the floor with the PRV.

Next week we will look at a problem in a domestic water recirculating system and how the service contractor and engineer can solve it.



## 4 REASONS WHY YOU SPECIFY... V SX DOUBLE SUCTION PUMPS



The impeller in the V SX series pump comes standard with a "Low Zinc Silicon Bronze ASTM 876" vs. the traditional ASTM 875 used by other suppliers.

Our low zinc design provides the owner with less wear than other manufacturers when chlorinated water is present.

Speaking of impellers, the B&G V SX impeller is factory balanced to ANSI G6.3 grade with even tighter tolerances available if required.

The casing and cover plate are standard with ASTM A159 cast iron which has a superior tensile strength to standard materials.



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