

August 22nd ~ Monday Morning Minutes:

Plumbing Topic: Domestic Water Recirculation Systems Part 6 High Rise Considerations

The last article, part 5, showed an example of a high rise system with pressure reducing valves (PRVs) and the importance of the correct setting of the balance valves. The example we used showed balance valves with as much as 18 PSIG across them at a low flow. When a design starts to incorporate balancing devices at low flows and heads higher than 20 PSIG, the opening may be so small that the valve is subject noise or to clogging due to dirt. For this reason we may suggest using zoned domestic hot water recirculation pumps.

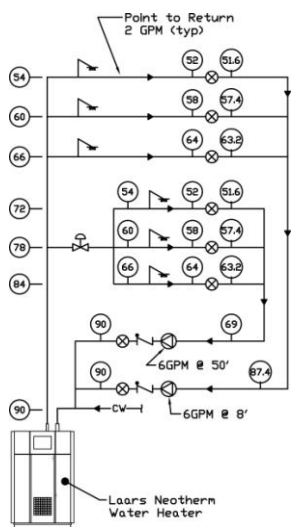


FIGURE 3

Figure 3 shows the same high rise system from our part 4 article but now with one pump for the lower floors and one for the higher floors. Please note how the balance valves have normal pressure drops. This type of system avoids noise or dirt issues and also makes the system less dependent on perfect balancing.

You may ask about pump availability with these low flows and high heads. Figure 4 shows our recommendation for the high head pump. This pump would be a Gould series eSV stainless steel pump with a 1/5 HP motor. The smaller pump could be a B&G model NRF-22 with a 1/8 HP motor shown in FIGURE 5.

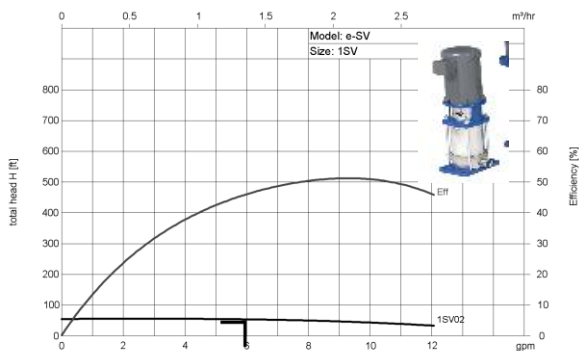


FIGURE 4

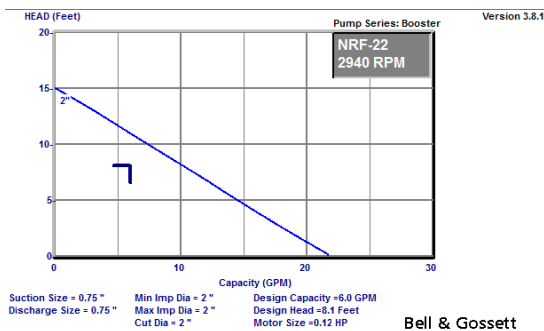


FIGURE 5

Next week let's look at piping in a mixing valve with a recirculating system

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