



HVAC Tech Note #20 – November 2004

A Slow Death

A leak of one drop per second represents a loss of about 200 US gallons of fluid per month (about 2.6 million drops!). It's not hard to imagine having a leakage rate of that magnitude in large systems that have lots of valve packing, pump seals, and mechanical piping connections. In addition to the cost of the fluid, that can add up to a lot of wasted energy in any system where the fluid is being heated or cooled.

There is another impact in closed systems – a slow death from corrosion and scale caused by raw water makeup required to maintain system pressurization. Raw water makeup, with its oxygen and other undesirables, is usually the only source of contamination available to closed hydronic systems. That's why it is so important to keep closed systems tight, and to quickly detect and repair leaks when they inevitably develop. Unfortunately, small leaks can be very hard to detect.

Packaged system feeders provide excellent leak detection; if the fluid level in the reservoir is going down, the system is taking fluid. A packaged feeder also gives the operator control over what is used for makeup fluid, which can be a big advantage in areas where the raw water supply should not be used for makeup.

Our thanks to David Whitfield (Johnson Controls Edmonton) for sending me a note on the impact of leaks and providing the basis for this tech note.

And, we hope that you have a safe and happy holiday season.

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