

## Hot Water Recirculators; repeat

This is a repeat of an article I wrote before. A friend of mine had his pump stop working and they really missed it!

A complaint heard often is how long you have to run the hot water before it gets hot. Our lines are (in slab houses) under the ground and a good distance from the hot water heater. There are hot water circulating pumps available that allow a little water to re-circulate keeping the water in the line hot so it is warm as soon as you turn it on. The pump has a clock timer so it runs only when you think you need it the most. I have one and if I shower at an odd time when the pump is not running I really miss it. Same at the



kitchen sink; if the pump is not running it seems forever to get hot water.

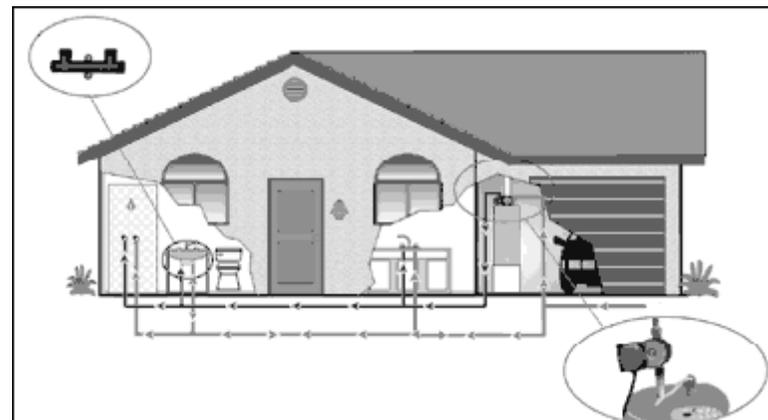
Figure about \$250 for material. You can find it cheaper if you shop around. Watts has one at Home Depot, Loews and Costco's for about \$190. You can install it yourself if you know how to sweat copper pipe and your back, bones and muscles can take 15 to 20 minutes under the sink installing the sensor to your piping. Or you could get a son, son-in-law or grandson to do it. The basic concept is a small electric

pump that sends hot water down your piping to the furthest set of sink valves where it is allowed through an orifice back into the cold water line. When the water gets warm at the sensor a thermostatic valve shuts the flow. Every homeowner gets frustrated waiting for hot water -- but how many stop to think what happens to the 2-3 gallons of water that runs down the drain during the wait?

Those gallons of water are wasted, (and 2-3 gallons of cold water is admitted to the hot water tank) and in an average household that takes two showers per day, that can add up to thousands of gallons per year.

Multiplied over a subdivision of 1000 homes, a community can have millions of gallons of water go down the drain and into the wastewater system every single year.

In typical plumbing, water is pumped from the water heater through the pipes to the tap. Once the tap is



shut off, the water remaining in the pipes cools -- hence the familiar wait for hot water the next time the tap is opened.

Grundfos HWR (Hot Water Recirculating) or Watts Pumps offer a

solution to the problem by attaching to the water heater through the hot water pipe. By constantly circulating hot water through the pipes from the heater to the furthest fixture, the water in the pipes is always hot, and no water is wasted during the wait. In an average home, HWR systems typically cost less than \$750, including parts and installation according to Grundfos.

I think it would be a little less. I always figure 1 and a ½ times the cost of material for labor. So that would be, say, \$250 for material, times 1.5 equals \$375 for a total of \$625. Or the one from Watts for \$190.00 figuring in the labor would come to about \$330. A handyman would probably be a lot less expensive. I have (and I recommend) that you also install a second sensor at the kitchen sink, about \$60. The same pump works both lines so all you need is the sensor. You could ask your grandchildren if they mind you spending that much of their inheritance for you to be comfortable for your remaining years. I think they might understand.

How much does it cost to operate? The HWR uses a 2-pole motor for low energy consumption. Energy costs will vary according to local rates. The HWR pumps uses between 33 to 55 watts on small models and up to 85 watts per hour on larger models. The smaller one, the one available in Costco, Home depot and Loews is all you need. The average annual cost to operate the pump will be less than \$20 per year.

The average household wastes 27 - 105 gallons of water per day waiting for hot water. That adds to more than 12,000 gallons of water saved annually per installation, depending on the size of the water pipe and the frequency of use. There are other makes out there but these are the two I am familiar with. I and others I know with this system are very happy that they installed it. The pumps are available over the web, Costco's, Loews, Home depot and your local plumbing supply store. Another company is Laing Circulating Pumps but I do not have any experience with them. There are also the type where you install the pump itself under the sink but keep in mind you must install an electric outlet under the sink also and the hum of the pump might annoy you if your hearing is good. Otherwise they work on the same principal.

As always, check this and other tips at - <http://bellboatbob.com/fairwaysmaintenance.htm>

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