

By Bill Riley

hot stuff

AT THE TAP

So your customers want hot water at the tap sooner – not later – that’s fine. Manufacturers have responded with all varieties and types of technology to help deliver hot water to household or business taps in a jiffy, but it might help to temper their expectations, to avoid landing in hot water yourself.

The first thing I say when a customer expresses interest in “instant” hot water is that it’s not exactly instant. Hot water recirculation systems, by design, work quickly to provide hot water for showers and taps, but it may be a few seconds before the hot water’s there. Without a doubt, though, these products greatly improve access to hot water and they do save water and money as well – another huge advantage.

An average family of four can waste almost 50,000 litres of water a year waiting for hot water to reach showers and faucets. In many cases, homeowners not only pay for water at the faucet, but to get rid of it as well. And, when there are long, inconvenient waits for hot water at the tap, homeowners are also paying more to heat domestic water. All of these things are improved when hot water recirculation technology is installed.

So what’s available to reduce the wait for hot water?

In speaking with Taco product manager Carl Perrone about hot water recirculation, he shared some insights into “point of use” and “dedicated return line” technologies, as well as some of the types of products that are available in the marketplace to provide hot water comfort, convenience and conservation.

These devices are a great investment for homeowners, especially in areas where water costs are high, or where water conservation needs are greatest.

It also makes great sense for installers who want to offer solid, affordable recommendations to homeowners.



Taco

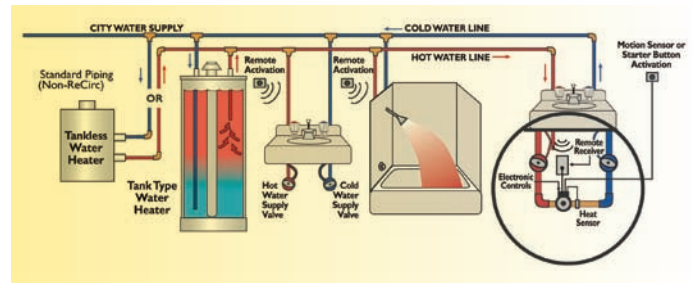


Delta Faucet

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POINT OF USE products



..... HOT WATER ON COMMAND

For the homeowner that wants it all, there are products that speed water to fixtures with the push of a button, or are activated by a sensor. These products can operate round-the-clock to provide hot water “on command” and, at the same time, save water, energy and money.

Generally, these systems are based around a small pump that’s attached to the hot and cold water lines within the vanity. When activated, the cool water that most often goes down the drain and is wasted is instead recirculated back to the water heater through the cold water line.

On command from the sensor, the pump circulates the hot water from the water heater. When the hot water arrives at the fixture, a heat sensor and control board shut off the pump to prevent pumping excess hot water into the cold water line.

Standard plumbing and distance often requires that these devices be installed between the hot and cold water line at the fixture that is most distant from the hot water heater.

WORKING ON THE TIMING

When retrofitting a home that has no dedicated return line, another method for accomplishing hot water recirculation for domestic water is to incorporate a programmable timer into the system.

These systems often come complete with braided flex hoses, pre-wired power cord and a bypass valve for under the sink that closes or restricts hot water flow when water temperature at the valve increases. Other devices offer an integral thermal sensor disc that closes when hot water reaches the valve. The pump is installed back at the water heater or hot water source. Some also offer an internal flow check that prevents cold water from backing into the hot line.

..... FULL CLOSE

When working with bypass valves, it can be advantageous to use valves that will close completely, with no residual flow into the cold water line.

A common complaint from homeowners whose bypass valve doesn’t completely close is that their cold water can become lukewarm water – not very appealing if going for a quick glass of H₂O.

The reason for this is that as hot water temperatures increase at the bypass valve (with the recirculation pump in operation) the valve increasingly restricts the flow of hot water into the cold line, but with the pump in operation the valve never completely closes to cut off the path of hot water into the cold line.

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DEDICATED RETURN LINE options

PROGRAMMED FOR USE

Builders and remodelers with a focus on sustainability and “green” may find self-programmed technology to be a big asset when making recommendations to homeowners.



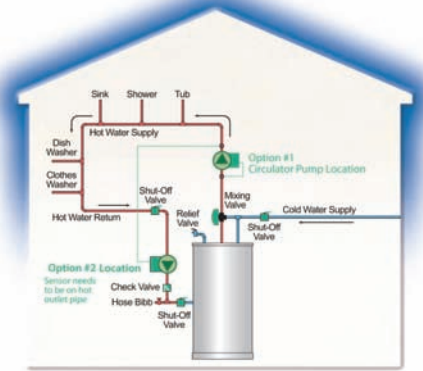
These systems are fully automatic and can be pre-programmed to “learn” household usage patterns.

The hot water recirculation device will record “events” each time sustained hot water is called for over a given timespan. For example, a system I use records over a seven-day period, and then for the next seven days the device repeats the preceding week’s pattern to cycle the pump, providing instant hot water at all fixtures. This energy saving process happens continuously, so hot water is ready when it’s needed.

Events, for instance a typical shower, use of the dishwasher, or a washing machine’s warm or hot cycle, will begin to set patterns that are recorded within the circuitry.

When compared to traditional, continuous-run recirculation pumps, these systems save an enormous amount of energy – more than 90 per cent in some cases.

Some of these devices can also be set to operate intermittently, for example, 150 seconds every 10 minutes. This is enough flow to maintain hot water at all fixtures.



GOING AWAY?

With recirculation technology going the programmable route, some systems allow for a vacation override function that will shut the pump off and circulate water once a week while the homeowners are away – that occasional circulation cycle is used to prevent corrosion and scale buildup.

When the homeowners return, the unit can resume normal operation.

SIZED TO FIT



Hot water recirculation devices are typically available in a range of sizes and system connection options to accommodate

residential and light commercial domestic recirculation applications. Many are available in lead-free bronze or stainless steel, with an optional integral flow check.

MORE EFFICIENT DISHWASHING

It’s interesting to note that some dishwasher manufacturers are now recommending that homeowners run hot water at nearby taps, prior to turning on the machine, so that the line is first primed with hot water.

This wastes water and time, and homeowners then pay as the clean water is flushed into the sewage system.



This does permit dishwasher manufacturers to claim that their equipment is more efficient, but the requisite waste and inconvenience to homeowners is ignored.

The use of a hot water recirculation system would be a much better option. 