

## HLS-2 Hot-Link® System for Domestic Hot Water Recirculation

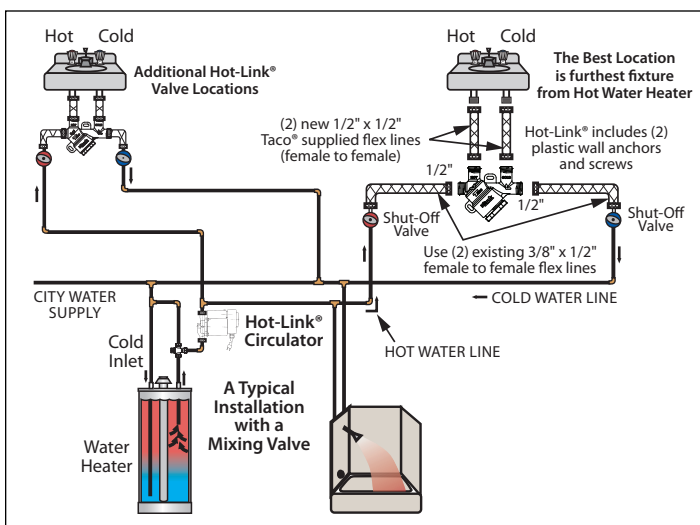
SUPERSEDES: NEW

EFFECTIVE: October 30, 2015

Plant ID# 001-4255

### Application:

The Taco **HLS-2 Hot-Link® System** for Domestic Hot Water recirculation ensures instant hot water comfort at showers and faucets. By supplying fresh hot water to the fixtures while returning the “cooled” hot water back to the water heater through the cold line, it also saves thousands of gallons of wasted water per year. The average family can achieve yearly savings of up to 12,000 gallons of water normally wasted down the drain while waiting for hot water.



### High Quality Features:

The **Hot-Link System** includes a high performance Stainless Steel 00 circulator with a pre-wired power cord and programmable 24 hour timer. This circulator is suitable for most residential homes with hot supply lines up to 150 feet in length.

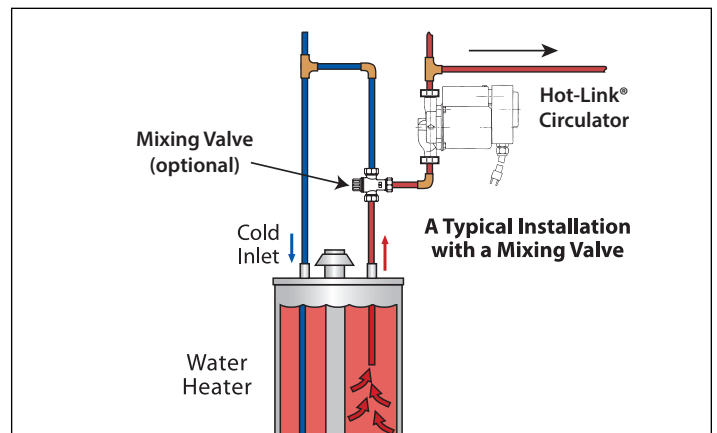
The unique **Hot-Link Valve** is the key to the system. Made of durable high temperature polymer, it creates an easy-to-install return loop through the cold line from the furthest fixture back to the water heater. An integral thermal sensor disc closes when hot water reaches the valve. An internal flow check prevents cold water from backing into the hot line. Stainless steel braided flex hoses complete the installation.

**WARNING: To avoid electrical shock, disconnect the power supply to the circulator and the main electrical unit.**

**WARNING: Circulator must be installed on and supported by the circulation piping.**

### Installing the Hot-Link System Circulator:

1. Follow all local plumbing and electrical codes when installing the **Hot-Link System**.
2. Shut off cold water supply valve to water heater.
3. Open a hot water faucet in the house to drain the hot water line.
4. Open water heater drain valve located at the bottom of tank to drain remaining hot water from the lines. It is not necessary to drain the entire tank.
5. Disconnect hot water supply line at water heater outlet nipple.
6. Install  $\frac{3}{4}$ " female tailpiece and union nut to the water heater outlet. Apply pipe dope or Teflon tape to all male threads as required.
7. Install the  $\frac{3}{4}$ " male union tailpiece and union nut to the pump outlet connection. Be sure flow arrow located on the pump casing is in the proper direction. See diagram.



8. Install the **Hot-Link** circulator by attaching the inlet to the tailpiece and union nut on water heater outlet. Circulator motor must be in the horizontal position.

**CAUTION: Do not run circulator dry. Permanent damage may result and will void warranty.**



9. Reconnect the hot water supply line to circulator  $\frac{3}{4}$ " male outlet.
10. Open supply valve to water heater. Let water run until all air is purged from lines. Check for any leaks. If leaks are detected, close supply valve and tighten all connections.
11. Shut off open hot water faucet.

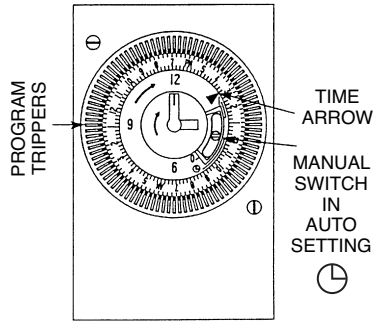


## Setting the Circulator Timer:

1. Set timer to exact time of day by turning the clock face clockwise. Be sure to align the time arrow with the correct AM/PM settings in outer ring.

### Analog Timer Manual Switch Settings

1. Up = On, Constant circulation I
2. Middle = Automatic operation 
3. Down = Off 



Analog Timer Diagram


2. Plug power cord into nearest 115V power outlet. Set timer manual switch to ON to test for pump operation. Run pump in manual mode for 5 minutes to purge air from pump. See clock face diagram.
3. To set the desired ON/OFF operation times, push the trippers away from the clock face at the corresponding hour/minute for ON times. Push trippers toward clock face for OFF times. Each tripper represents 15 minutes.
4. After all ON/OFF times are set, move timer manual switch to middle AUTO position for automatic operation.



Hot-Link® Valve

## Installing the Hot-Link Valve:

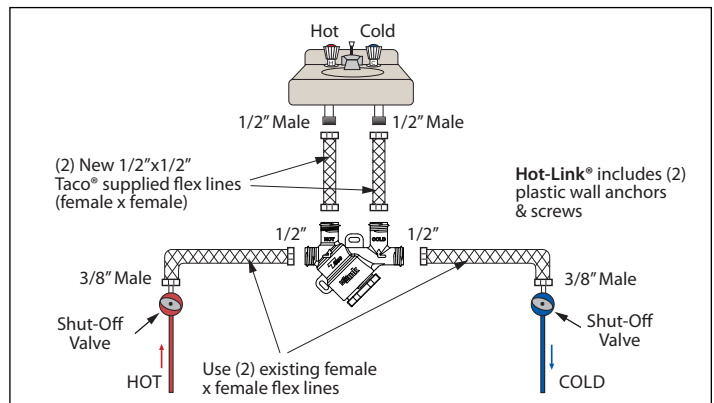
1. Select the hot water faucet furthest from the water heater. If your plumbing system branches in two different directions, another **Hot-Link Valve** may need to be installed at the end of each run.
2. Shut off the hot and cold angle stop valves below the sink.
3. Open the hot and cold faucets to purge water from the lines.

 **CAUTION: Do not use pipe dope or teflon tape on the valve body threads.**

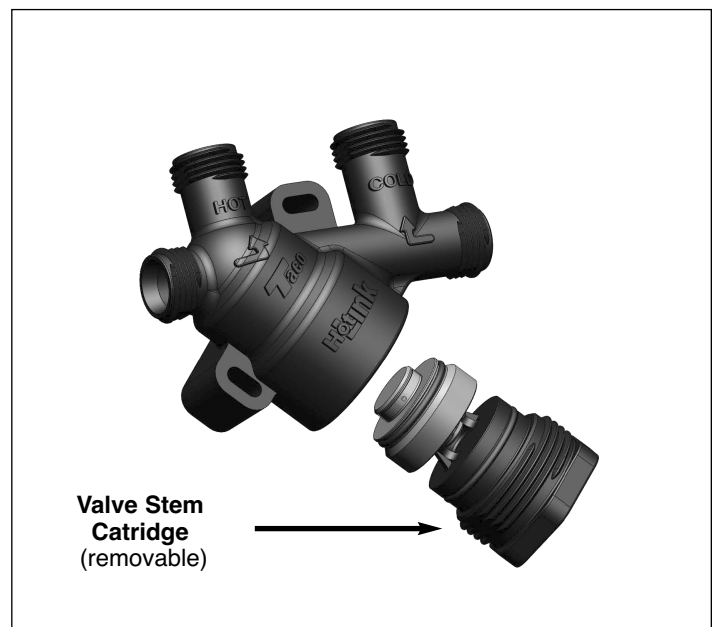
4. Disconnect the hot and cold flex hoses from the 1/2" faucet connections beneath the sink and reconnect them to the respective hot and cold inlet ports on the **Hot-Link Valve**. Locate the flow arrows on the side of the valve to verify flow direction.

 **CAUTION: Use caution when attaching flex hoses to the Hot-Link Valve to prevent cross-threading or stripping of the threads.**

5. Install the 1/2" x 1/2" flex hoses provided. Connect one hose to the hot outlet of the valve and the hot water connection on the faucet (left side). Connect the second flex hose to the cold outlet of the valve and the cold water connection on the faucet (right side).
6. When all connections are made, open angle stop valves and check for leaks.
7. Attach the **Hot-Link Valve** to the wall using anchor screws provided.



**Note:** The **Hot-Link Valve** can be disassembled for service and cleaning. Repeat steps number 2 and 3. Unthread the valve stem cartridge from the body and clean internal screen of debris. Re-attach valve stem securely to prevent leaks. Open angle stop valves and check for leaks.



## Hot-Link Trouble Shooting

SYMPTOM	POSSIBLE CAUSE	SERVICE TIP
No Hot Water	Clogged filter screen.	<ul style="list-style-type: none"> <li>• Close angle stop valves beneath sink.</li> <li>• Open hot and cold faucets to drain line of pressure.</li> <li>• Remove valve stem cartridge, thoroughly clean screen, replace, open angle stop valves and check operation.</li> </ul>
	Pump installed incorrectly.	<ul style="list-style-type: none"> <li>• Check to see if flow arrow on pump casing is in correct direction.</li> </ul>
	Pump not running.	<ul style="list-style-type: none"> <li>• Check circuit breaker.</li> <li>• Check power supply outlet.</li> <li>• Check to see if timer is set to correct time of day.</li> <li>• Check trippers. Are they set to correct AM/PM time?</li> <li>• Check timer switch. Set to AUTO (middle) position.</li> </ul>
	Hoses connected incorrectly.	<ul style="list-style-type: none"> <li>• Check to see if flex hoses are connected to proper Hot/Cold ports on valve.</li> </ul>
<p>Abundance of Hot Water in Cold Line</p> <p>Note: It is normal for some warm water to be in cold line during recirculation cycle.</p>	<p>If unable to flush the hot water from the cold line by running the cold faucet, it may indicate that the valve is damaged.</p>	<ul style="list-style-type: none"> <li>• Replace valve.</li> </ul>
Water is too Hot	<p><b>Hot-Link</b> system has improved delivery of hot water.</p>	<ul style="list-style-type: none"> <li>• Install mixing valve on water heater outlet. See piping schematic on page 1.</li> </ul>

## LIMITED WARRANTY STATEMENT

Taco, Inc. will repair or replace without charge (at the company's option) any Taco 00 Series circulator or circulator part which is proven defective under normal use within three (3) years from the date of manufacture.

In order to obtain service under this warranty, it is the responsibility of the purchaser to promptly notify the local Taco stocking distributor or Taco in writing and promptly deliver the subject product or part, delivery prepaid, to the stocking distributor. For assistance on warranty returns, the purchaser may either contact the local Taco stocking distributor or Taco. If the subject product or part contains no defect as covered in this warranty, the purchaser will be billed for parts and labor charges in effect at time of factory examination and repair.

Any Taco product or part not installed or operated in conformity with Taco instructions or which has been subject to misuse, misapplication, the addition of petroleum-based fluids or certain chemical additives to the systems, or other abuse, will

not be covered by this warranty.

If in doubt as to whether a particular substance is suitable for use with a Taco product or part, or for any application restrictions, consult the applicable Taco instruction sheets or contact Taco at (401-942-8000).

Taco reserves the right to provide replacement products and parts which are substantially similar in design and functionally equivalent to the defective product or part. Taco reserves the right to make changes in details of design, construction, or arrangement of materials of its products without notification.

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