

# Plumbing System Solutions



## Domestic Hot Water Recirculation

### The Problem: Waiting for Hot Water

It's a common problem: turn on the faucet or shower for hot water, then wait for it to arrive. In fact, the wait can be minutes in larger homes with multiple bathrooms and long runs of pipe between the plumbing fixtures and the water heater! With a Taco Domestic Hot Water Recirculation System in place, there's no more wait. Instant hot water!

#### Taco instant hot water solutions

Taco Model	ECM High Efficiency	Dedicated Return Line	No Dedicated Return Line	Traditional Water Heater	Tankless Water Heater
006e3	√	√	---	√	√
SmartPlus-e	√	√	---	√	---
Hot-LinkPlus-e	√	---	√	√	---
TacoGenie	---	√	√	√	√
Plumb n' Plug	---	√	---	√	---
003 / 003-IFC	---	√	---	√	---
006 / 006-IFC	---	√	---	√	---

### Waiting Means Wasting

Waiting for hot water sends millions of gallons of cooled water down the drain each year. In fact, an average family of four wastes up to 12,000 gallons of water each year waiting for hot water.\* Water conservation is so important that many US states and municipalities routinely impose watering bans and offer rebate incentives to help conserve this natural resource.

*\*Source: Dept. of Energy study.*

### Energy Down The Drain

Of course, all that "waiting water" contains some heat energy (BTU's), even if it's only room temperature. Wasting those BTU's and starting over with fresh, cold water to heat up requires even more heat energy. So in addition to wasting water, millions of BTU's and energy dollars are wasted, too.

### The Solution: Install a Taco Domestic Hot Water Recirculation (DHWR) Product

Provide your customers with the comfort and convenience of instant hot water without the waste. Taco DHWR products are designed to meet a variety of DHWR system types, and offer customers a wide range of options to control hot water delivery to faucets and showers.

### System Types & Products

#### Dedicated return line piping

This system is provided with a dedicated return line installed between the end of the hot water supply pipe and the water heater. A circulator is installed in the piping loop to move the hot water from the water heater through the supply pipe and back through the return pipe.

*Taco provides four great options for this system:*

- 006e3™
- SmartPlus-e™ (Bundle Packaging)
- Plumb n'Plug®
- TacoGenie®
- SmartPlug® (with any corded circulator)

#### Piping without a return line

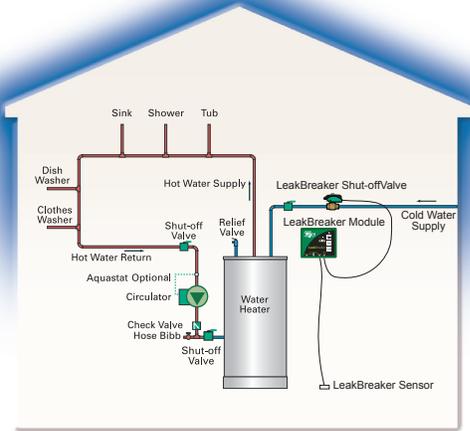
A domestic hot water system without a dedicated return line requires a "point of use" product that is typically installed at the fixture furthest from the water heater. The cold water supply pipe is used as the return line to the water heater.

*Taco provides four great options for this system:*

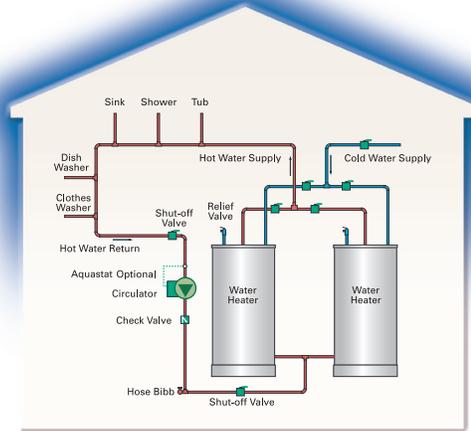
- Hot-LinkPlus-e (Bundle Packaging)
- Hot-Link® System
- TacoGenie®

# Typical Installation & Piping

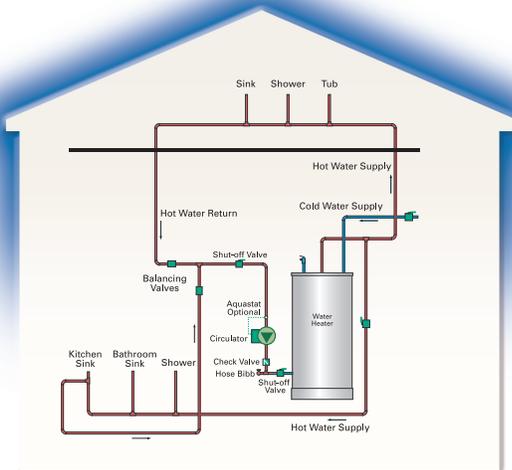
### One-Story with 1 Water Heater



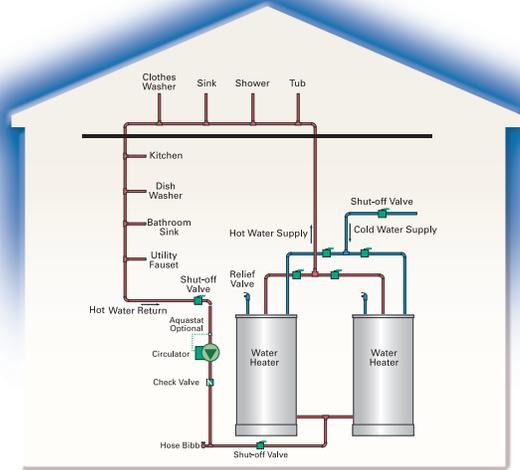
### One-Story with 2 Water Heaters



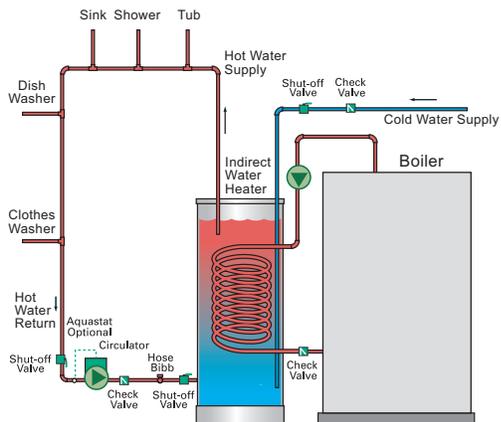
### Multi-Story with 1 Water Heater



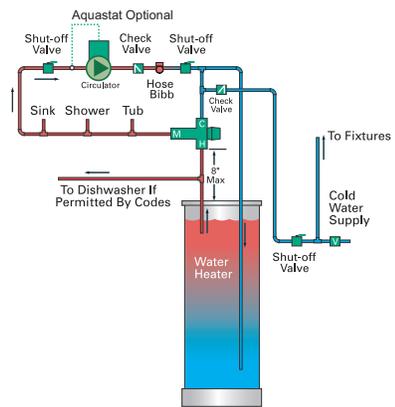
### Multi-Story with 2 Water Heaters



### Recirculation Piping with Indirect Water Heater



### Recirculation Piping with Storage Water Heater & Mixing Valve



# 006e3™

ECM HIGH-EFFICIENCY  
HOT WATER CIRCULATOR

## Three settings. One reputation.

The 00e® series — 006e3 is an infinitely variable, high-efficiency wet rotor circulator with an ECM permanent magnet motor. With 3 easy settings, the 006e3 delivers performance, reliability and ease of installation that made the 00® famous.



Model Number (Part Number)	Details
<b>006e3</b> (VM1212-DY1-UP2A00)	6" wire leads
<b>006e3LC</b> (VM1212-DY1-UP2A01)	Line Cord

- 13' Shut-off head, 11 gpm max flow
- Easy to use dial:
  - Low, Medium, High
  - 003 & 006 performance point references
- Rugged high-performance composite casing
- 3 color LED indicator light:
  - Blue: Operating mode
  - White: **SureStart®**
  - Red: Error diagnostic
- Whisper quiet operation
- 1" union connection with optional ½" & ¾" fitting sets sold separately (See chart below)
- Double insulated, no ground wire required

### Replacement Chart

Taco	Grundfos	Armstrong	B&G / Xylem	Laing
003	UP 15-18	Astro 225 BS	ecocirc e <sup>3</sup> -4	E1 Series
006	UP 15-10 UP 10-16	Astro 225 SSU Astro 220 SSU	ecocirc e <sup>3</sup> -6 NBF-8, 9, 10, 12 SSF-9, 12	E3 Series

### Materials of Construction

Casing: .....Composite  
 Stator Housing:.....Composite  
 Cartridge:.....Composite  
 Impeller:.....Composite  
 Shaft:.....Ceramic  
 Bearings:.....Carbon  
 Thrust Bearing:.....Ceramic  
 O-Ring & Gaskets:.....EPDM

### Choose the right fitting for the job!

Image	Fitting Assembly Description	Product Code
	½" Union Sweat	UFS-050S
	½" Union FNPT	UFS-050T
	½" Union Press	UFS-050P
	¾" Union Sweat	UFS-075S
	¾" Union FNPT	UFS-075T
	¾" Union Press	UFS-075P

Fitting sets include (2) gaskets, (2) union nuts and (2) tail pieces.

### Setting Selection Guide

Based on ¾" supply, ½" return copper pipe



HIGH — 500 ft pipe



MEDIUM — 350 ft pipe



LOW — 200 ft pipe or less

NOTE: Figures are for reference purposes only. Refer to ASTM guidelines for piping flow & velocity standards. For PEX, refer to pipe manufacturer guidelines.

See Taco Catalog #100-43 and Submittal Datasheet 101-191 for full details.

A bundle of efficiency for instant **hot water** when you need it.

# SmartPlus-e™

ECM High-Efficiency **Hot Water** Recirculation System

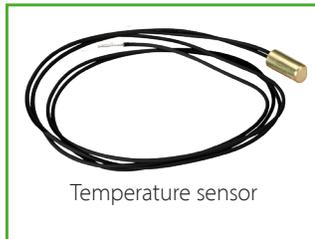
Model Number	SPe-1
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Perfect for systems with a tank water heater and dedicated hot water return line, the SmartPlus-e combines the high-efficiency of the 006e3 ECM circulator and the intelligence of the award-winning SmartPlug Instant Hot Water Control®. A one-two punch that delivers instant hot water comfort while saving energy and water – up to 12,000 gallons a year! With **SureStart**® automatic unblocking and air purging, you can expect years of trouble-free performance from Taco, the leader in reliability. —Install it, forget it™.



Ideal for systems with a **tank water heater & dedicated hot water return line**

### SmartPlus-e Bundle Includes:



- Quick & easy installation:
  - 3 easy settings
  - Multiple connection options available
  - No aquastat, no timer, no programming
- High-efficiency ECM motor uses up to 85% less electricity
- Saves time & energy
  - Learns hot water usage patterns
  - Maximizes hot water comfort & energy savings
- SmartPlug Instant Hot Water Control®
  - **Smart Mode**
  - **Pulse Mode**
  - **Vacation Mode**
  - **Exercise Function**
- Unmatched customer service & technical support

See Taco Catalog #100-152 and Submittal Datasheet 101-202 for full details.

For more information about:  
006e3 see page 4 • SmartPlug Instant Hot Water Control see page 7

A bundle of efficiency for instant **hot water** when you need it.

# HotLinkPlus-e™

ECM High-Efficiency **Hot Water** Recirculation System

Model Number	HLPe-1
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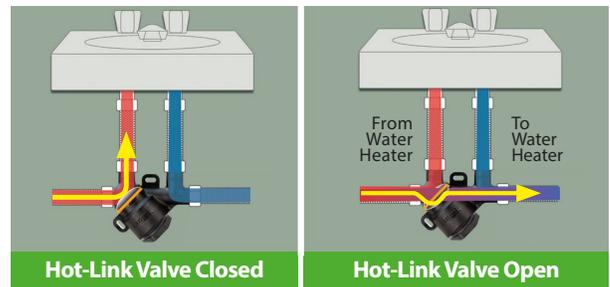
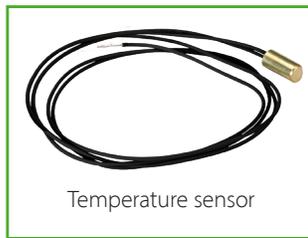
Enjoy instant hot water comfort while avoiding a major renovation. The Hot-LinkPlus-e system installs easily into existing plumbing with a tank water heater. No dedicated hot water return line is needed! The system combines the ECM high-efficiency 006e3 hot water circulator with the award-winning SmartPlug Instant Hot Water Control® and Hot-Link® Valve for maximum comfort and efficiency. Enjoy water savings of up to 12,000 gallons per year. You can expect trouble-free performance reinforced by **SureStart®** automatic unblocking and air purging. Ideal for retrofits, the Hot-LinkPlus-e requires no programming and is built with the reliability that's made Taco famous.

— Install it, forget it™.



- Fully automatic
  - Never needs programming
- Ideal for retrofits
  - No dedicated return line needed
  - Uses existing plumbing
- Saves time & energy
  - Learns hot water usage patterns
  - Conserves by providing instant hot water
- SmartPlug Instant Hot Water Control®
  - **Smart Mode**
  - **Pulse Mode**
  - **Vacation Mode**
  - **Exercise Function**
- High-efficiency ECM motor uses up to 85% less electricity
- Unmatched customer service & technical support

### Hot-LinkPlus-e Bundle Includes:



See Taco Catalog #100-153 and Submittal Datasheet 101-203 for full details.

For more information about:

006e3 see page 4 • SmartPlug Instant Hot Water Control see page 7 • Hot-Link Valve see page 9

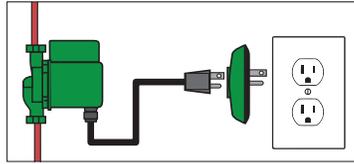


# SmartPlug®

INSTANT HOT WATER CONTROL

Model Number	SP115-1
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No Programming, Timers or Aquastats Required • Sensor Included



For use with any Taco domestic water 00® circulator with a 110 Volt Line Cord. Circulator sold separately.

## Specifications

- Input: 120VAC, 50/60HZ, single phase, 6A
- Output: 120VAC, 50/60HZ, Single phase, 1/2 hp (limited to 6 FLA, 36LRA)
- Sensor: NTC Thermistor, 10K ohm @ 77°F, B= 3392
- Fuse: 125V, 6A, Medium Acting 5x20 mm glass, Littelfuse® p/n 0233006 mxp
- Ambient Operating Temp: 50-104°F, 10-40°C

U.S. Pat# 8,594,853 and 9,207,682

The patented SmartPlug® lets you upgrade any existing hot water recirculation pump with a power cord to "Smart" operation. Simply connect the SmartPlug to any 110V power outlet then plug the circulator power cord into the SmartPlug. A sensor in the SmartPlug will record the daily hot water usage pattern in a home and adjust the circulator run time automatically. Hot water will always be available when needed.

See Taco Catalog #100-133 and Submittal Datasheet 101-179 for full details.



# Plumb n' Plug® Circulators

Go to [www.TacoComfort.com](http://www.TacoComfort.com) for a list of all available models



## Features with Analog Timer

- Factory Installed 6' Line Cord and 24 Hour/15 Minute Interval Analog Timer
- UL Listed
- Optional 95°F -115°F Aquastat Available
- Standard High Capacity Output
- Compact Design
- Quiet, Efficient Operation
- Direct Drive-Low Power Consumption
- Unique Replaceable Cartridge Design — Field Serviceable
- Self Lubricating
- No Mechanical Seal

- Unmatched Reliability — Maintenance Free
- Sweat Connections — Bronze
- Union & Threaded Connections — Stainless Steel
- Flanged — Stainless Steel

## Additional Features with Digital Timer

- Digital Timer, 7 day Programmable
- Large LCD Display
- Easy-to-Use Program Buttons
- On/Off Intervals as Short as 1 Minute
- 2,500 hour Capacitor Backup, Saves Settings

## Materials of Construction

### Circulator:

Casing (Volute).....Bronze or Stainless Steel  
 Stator Housing .....Steel  
 Cartridge.....Stainless Steel  
 Impeller.....Noryl®  
 Shaft.....Ceramic  
 Bearings.....Carbon  
 O-Ring.....EPDM

### Integral Flow Check (IFC®):

Body & Plunger .....Acetal  
 Spring.....Stainless Steel  
 O-Ring.....EPDM

See Taco Catalog #100-6.6 and Submittal Datasheet 101-066 for full details.



C = TacoGenie  
T = Threaded  
F = Flanged  
U FK = Under Sink Kit



**For New or Retrofit Installations**

Using the existing cold water line as the return line, TacoGenie® is ideal for both new and retrofit installations. Typically installed at the furthest fixture from the water heater, TacoGenie fits out of the way, under any bathroom vanity. Connections are made from the hot and cold lines to the suction and discharge side of the pump using adapter tees and stainless flex lines provided. When hot water is needed, the pump is activated by pressing a starter button, runs only long enough to supply hot water to the fixture and then automatically stops. This prevents hot water from entering the cold line. A spring-loaded Integral Flow-Check valve (IFC®) prevents cold water from entering the hot line. Optional wireless push button or motion sensor starters are also available.

When hot water is needed, the pump is activated by pressing a starter button, runs only long enough to supply hot water to the fixture and then automatically stops. This prevents hot water from entering the cold line. A spring-loaded Integral Flow-Check valve (IFC®) prevents cold water from entering the hot line. Optional wireless push button or motion sensor starters are also available.

**Features and Benefits of the TacoGenie®**

- Instant Hot Water Comfort
- Maximum Water & Energy Savings
- 24 Hour operation
- Maintenance free circulator - unmatched reliability
- Removable stainless steel cartridge — contains all moving parts
- Integral Flow-Check (IFC®) to prevent thermal-siphoning or gravity flow
- Pre-wired power cord and integral temperature sensor
- Adapter tees & stainless steel flex lines included (USK models only)
- Wireless Push Button remote or motion sensor starter-optional
- Ideal for tankless water heaters
- 3 Year Warranty

**Standard Piping:  
Tank Type Water Heater**

Size of Home	Total Length of Pipe (ft)	Model Number
Small	50	006-CT-USK
Medium	100	008-CT-USK
Large	Over 100	0011-CT-USK

**Tankless Type Water Heater**

Size of Home	Total Length of Pipe (ft)	Model Number
Small/Medium	<60	006-CT-USK
Large/Commercial	60+	011-CT-USK

**Recirculation Piping:  
Tank Type Water Heater**

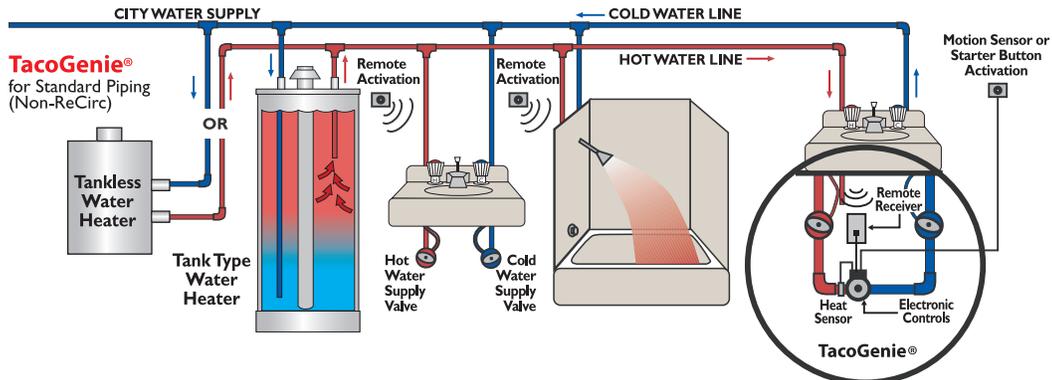
Size of Home	Total Length of Pipe (ft)	Model Number
Small	100	006-CT
Medium	200	008-CT
Large	200+	0011-CF

**Tankless Type Water Heater**

Size of Home	Total Length of Pipe (ft)	Model Number
Small/Medium	<2500	006-CT
Large/Commercial	2500+	011-CF

**Taco Genie System Accessories**

Description	Model Number
RF Remote Transmitter / Receiver Kit	554-7
RF Individual Remote Transmitter Button	554-8
Hardwired Individual Starter Button Round	554-3
Motion Sensor Kit	554-4



See Taco Catalog #100-15 and Submittal Datasheet 101-150 for full details.

# HotLink®

Ingenious instant hot water



### Instant hot water. No additional plumbing or electrical needed!

Hot-Link® is a quick, easy retrofit using the existing plumbing. Mount the valve under the sink furthest from the water heater and the pump at the water heater. The valve's unique thermal disc technology sends cooled water back to the water heater so hot water lines remain hot.

### Cleaning made easy.

There's no need to remove the Hot-Link valve from the piping to keep it clean. Our exclusive clean-in-place design makes short work of keeping the system operating properly.



Model Number	HLS-2
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### Features:

- Exclusive clean in place undersink valve design
  - Extends valve life
  - Reduces customer calls to replace "plugged" valves
- Creates a domestic hot water recirculation system without dedicated return loop piping
- Easy to retrofit to existing plumbing system
- Conserves water by greatly reducing the time it takes to get hot water
- Analog pump timer allows you to set the system to work during peak hours or to work continuously
- 3 Year Warranty

### The HotLink System Includes:

- Hot-Link Valve
- Hot-Link Circulator
- (2) Braided Flex Hoses
- (2) 3/4" NPT Brass Half Unions (Male x Female)

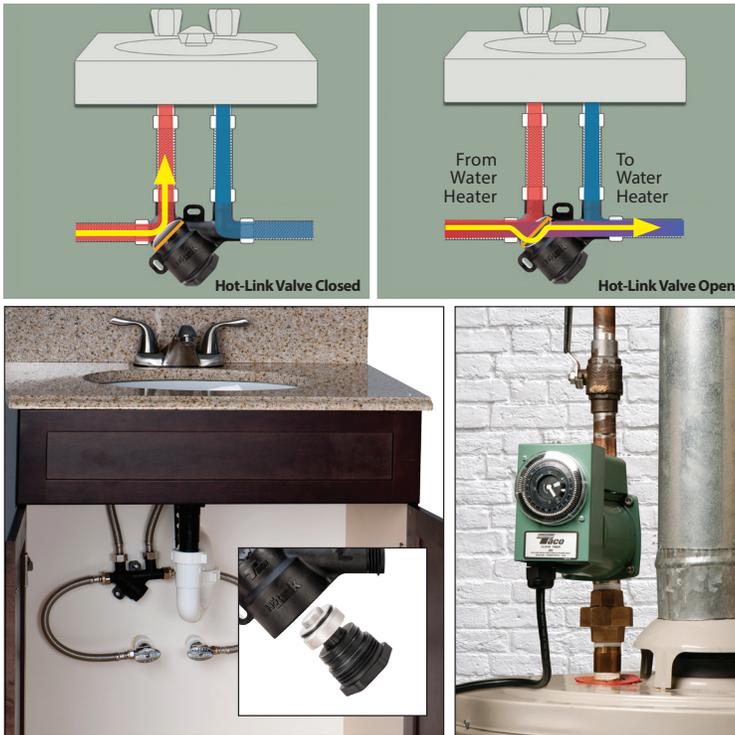
### Materials of Construction

#### Circulator:

Casing (Volute).....	Stainless Steel
Stator Housing .....	Steel
Cartridge .....	Stainless Steel
Impeller.....	Noryl®
Shaft.....	Ceramic
Bearings.....	Carbon
O-Ring.....	EPDM

#### Hot-Link Valve:

Body .....	Nylon
Thermal Disc Actuator.....	Bi-Metal
O-Ring Seals.....	EPDM
Integral Flow Check (IFC):	
Body, Plunger .....	Acetal
O-Rings .....	EPDM
Screen.....	304 SS
Stem.....	Nylon
Actuator Cartridge.....	Stainless Steel
Braided Flex Hoses.....	Stainless Steel



See Taco Catalog #100-93 and Submittal Datasheet 101-148 for full details.

Freedom FLANGE®	System Connection	Sweat	NPT
Shut-Off	1/2"	SFL-050S	SFL-050T
	3/4"	SFL-075S	SFL-075T
Bronze	1/2"	110-522BSFL	---
	3/4"	110-523BSFL	---
Stainless Steel	1/2"	---	---
	3/4"	---	110-251SF



Freedom FLANGE®



Freedom FLANGE®



Shut-Off Swivel Freedom FLANGE®



Unions	System Connection	Sweat	NPT
Half Unions	1/2"	110-558	110-556
	3/4"	110-559	110-557



Half Unions

Plumb n' Plug® Accessories	Model #
Analog Timer Kit	265-1
Digital Timer Kit	265-DT
Aquastat	563-2



Analog Timer



Digital Timer



Aquastat

**Potable Water Zone Sentry® Zone Valve (<math>\leq 0.25\%</math> Lead)**

The Taco Potable Water Zone Sentry valve is available in a 2-way sweat configuration with either a normally open or normally closed actuator. Some typical installations would include a combination domestic water and hydronic heating system, culinary installation or water shut off to a potable system.



Part Number	Valve Size	Valve Type
V050C2D2ZA024Q4A1 (Normally Closed)	1/2"	2-way Sweat
V075C2D2ZA024Q4A1 (Normally Closed)	3/4"	2-way Sweat
V050C2D2ZA024Q4A1 (Normally Open)	1/2"	2-way Sweat
V075C2D2ZA024Q4A1 (Normally Open)	3/4"	2-way Sweat

**Lead-Free Mixing Valves**

- Increases available hot water by up to 50%
- NSF 61, ASSE 1017
- Multiple sizes and connections available, including press connection



Part Number	Description
5000-3	BODY ONLY
5002-B3	1/2" UNION CPVP
5002-C3	1/2" UNION SWEAT
5002-P3	1/2" UNION PEX
5002-T3	1/2" UNION NPT
5002-H3	1/2" UNION PRESS
5003-B3	3/4" UNION CPVC
5003-C3	3/4" UNION SWEAT
5003-N3	3/4" UNION NPT FEMALE
5003-P3	3/4" UNION PEX
5003-T3	3/4" UNION NPT
5003-H3	3/4" UNION PRESS
5004-C3	1" UNION SWEAT
5004-P3	1" UNION PEX
5004-H3	1" UNION PRESS

## Leak Detection Products

# LeakBreaker® Water Heater Shut-Off

Part Number	eLink	Description
LBW-075-H-2LF	YES	3/4" NPT
LB-075-H-2LF	NO	3/4" NPT



The Taco LeakBreaker® is a water heater leak protection device that protects against flood damage from the containment failure of a water heater. It consists of a control unit, valve with actuator and sensor. This resettable, testable protection device can be installed on any style water heater to shut-off the incoming water supply, preventing additional water flow to a damaged water heater. The multi-color LED light and audible alarm lets you know the status of LeakBreaker at all times.



Installation of the control unit, valve and sensor is a snap.

See Taco Catalog #100-129 and Submittal Datasheet 101-178 for full details.

### Features

- Re-Settable
- Testable
- Quick Connect Wiring
- Operates on Batteries or Power Supply
- Multi-Color LED Status Light
- Audible Alarm
- Alarm Mute
- 2 N/O; N/C Dry Contacts
- Full Port Valve
- Easy Removable Actuator

### Materials of Construction

**Control Panel**..... High Performance Engineered Polymer

#### Actuator

Body ..... High Performance Engineered Polymer

Gears ..... High Performance Internally Lubricated Engineered Polymer

**Valve** ..... Body Forged Brass

Stem ..... Brass

Press Ring ..... Brass

Ball ..... Brass (Chrome Plated)

Seats ..... Modified Teflon®

O-Rings ..... Viton®

# LeakBreaker®

## Water Heater Shut-Off

Featuring **eLink™**  
Taco Connectivity



The Taco LeakBreaker® is a water heater leak protection device that protects against flood damage from the containment failure of a water heater. It consists of a control unit, valve with actuator and sensor. This resettable, testable protection device can be installed on any style water heater to shut-off the incoming water supply, preventing additional water flow to a damaged water heater. The multi-color LED light and audible alarm lets you know the status of LeakBreaker at all times.

The LeakBreaker with eLink technology uses Wi-Fi® to send alerts via email or text. Notifications can be sent when the device is activated or any other status change occurs. The status of the alarm, sensor, valve, battery, network connection and communication can all be monitored remotely.

The Wi-Fi® logo is a registered trademark of the Wi-Fi Alliance®



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