

Kit No. AMH1K-6UVZT1 has Mechanical Timer & Kit No. AMH1K-6UVZT2 has Digital Timer  
*Patent Pending*

Aqua-Flash Kits for Tankless Applications without Built-In Pump in the Heater  
Installation and Operating Instructions for Instant Hot Water Recirculation Systems

**NSF 372 Approved**

Thank you for choosing the Aqua-Flash Instant Hot Water Recirculation System by AquaMotion, Inc.

Please read and follow these step by step instructions to ensure that the system operates properly and reliably. Since the cold water supply line will be used to return the cooling hot water to the hot water heater you will experience some warm water from the cold water line. Opening the cold water faucet fully will flush the warm water from the cold line in a short period of time. After the Flash valve has been installed, the system will need to cycle through from hot to cold several times or overnight before normal operation is established.

**Warning:** This is not an anti-scald valve.

**Inspection**

Inspect the system components to ensure no damage has occurred to them during shipping. Avoid dropping the circulator which may be damaged if dropped.

The Aqua-Flash System includes:

- AM6 AquaMotion Circulator with a built-in timer and a 10 Ft line cord.
- AquaMotion Flash Bypass Valve
- Bypass Tee 3/4" FNPT x 3/4" MNPT x 3/8" OD Compression
- Two 3/4" NPT Male Tail Pieces with 1" Union Nuts and Gasket
- 5' Long 3/8" OD Copper Tubing
- 3/4" NPT x 3/4" NPT Nipple Check Valve (Preinstalled in Tee By-pass Tee)

**Tools Needed:**

- 5/8" open end wrench
- 1" open end wrench or an adjustable crescent wrench that opens to 1"
- Two Pipe wrenches that opens to 1.5"
- Copper Tube cutter if you choose to shorten tubing
- NFS Pipe Dope or Teflon Tape

**Limits**

- Maximum water temperature 110°C/230°F
- Maximum Pressure Rating 125 psi

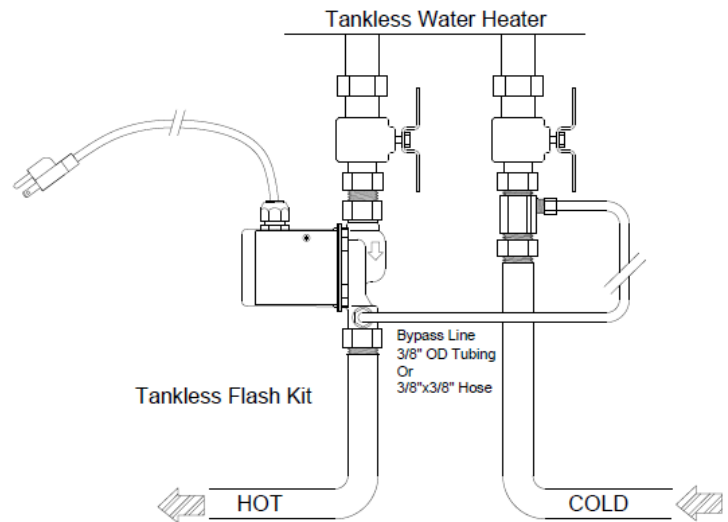
**Pump Installation**

**Warning:** For Indoor Use Only

**Warning:** Do not plug the pump in until the pump install is complete.

Follow National and Regulation Plumbing Codes.

- 1) Shut off the power or unplug the tankless heater. If no plug or switch is available, shut off the tankless heater at the breaker box.
- 2) On gas fired tankless heaters, shut the gas valve off to the tankless heater.
- 3) Shut off the cold water supply to the water heater. The valve may be on the cold supply line above the tank or located where the water line enters the residence.
- 4) Open a hot water faucet in the residence and allow the water to run until it stops. Leave the faucet open until the installation has been completed.
- 5) Remove the hot water line from the tankless heater at the threaded outlet port at the bottom or side of the tankless heater. Use a bucket or basin to catch any water. (If installing the pump remotely from the heater, choose a location that will accommodate the pump and fittings.)
- 6) Place one of the 1" union nuts over one of the 3/4" male tail pieces and thread the tail piece into the outlet port of the tankless heater (If installing the pump remotely from the heater, thread the tail piece onto the outlet line of the tankless heater) using pipe dope or Teflon tape on the threads.
- 7) Allowing room for the pump (5") thread the other tail piece and nut into the hot water line to the fixtures.
- 8) Install the pump between the two union nuts with gaskets between the pump and the fittings.
- 9) Remove cold water inlet line from the tankless heater at the threaded inlet port at the bottom or side of the tankless heater. Use a bucket or basin to catch any water. (If installing the pump remotely from the heater, choose a location that will accommodate the Bypass Tee and Nipple Check Valve).
- 10) Thread the 3/4" MNPT threads on the Tee into the inlet port of the tankless heater, thread the cold water inlet line into the 3/4" MNPT threads on the Nipple Check Valve using pipe dope or Teflon tape on the threads.
- 11) Install the copper tubing into the 3/8" OD compression fitting on the Tee (Use a tubing cutter if the tubing is too long) and tighten the compression nuts. If using a 3/8" comp. x 3/8" comp. hose, discard the brass nuts and ferrules and attach the hose directly to the threads on the pump and Tee.
- 12) Reopen the cold water supply valve to the hot tankless heater. Allow the water to run at the faucet to purge air from the lines. Close the faucet.
- 13) Check for leaks.
- 14) Turn on or plug in the power for the tankless heater.
- 15) Open the gas valve if it is a gas fired tankless heater.
- 16) Plug the circulator into a properly grounded 115V outlet. Set the timer, see Mechanical Timer Operation or Digital Timer sections.





Pump Installation



Cold Water Side Installation

### Valve Installation

**Note:** Pipe dope and Teflon tape are not required for any of the valve threads.

The valve is normally installed at the faucet that is furthest away from the hot water heater. If there are separate hot water branches in the residence, additional valves may be required.

- 1) Close both the hot and cold angle stop valves under the sink. **Fig. 1.**
- 2) Open both the hot and cold water faucets to relieve the water pressure.
- 3) Disconnect the riser pipes or hoses from the angle stop valves. Place a pan or rag below the connections to catch any water that may leak from the risers. **Fig. 2.**
- 4) Attach the cold water riser to the 3/8" thread on the tee.
- 5) Install the tee from the kit to the cold water angle stop valve using the 3/8" nut on the tee. **Fig. 3.**
- 6) Attach the 1/2" hose from the kit to the 1/2" connection on the tee. **Fig. 4.**
- 7) Attach the Flash valve to the hot water angle stop valve using the 3/8" nut on the Flash valve.
- 8) Attach the hot water riser to the 3/8" thread on the Flash valve.
- 9) Attach the 1/2" hose from the kit to the 1/2" connection on the Flash valve. **Fig. 5.**
- 10) Open the hot and cold Close angle to stop valves and purge air from the lines using the faucets.

**Note:** The spacing dimensions between angle stops vary. Position the valve and tee hose connections to suit your system.



Fig. 1.



Fig. 2.



Fig. 3.



Fig. 4.



Fig. 5.

### Timer Operation

The timer will turn the circulator on and off based on the times when hot water is needed. This may only be in the morning or mornings and evenings depending on the schedules of the residence.

#### Mechanical Timer Operation

The timer will turn the circulator on and off based the times when hot is needed. This may only be in the morning and evenings depending on the schedules of the residence.

#### Setting Instructions

- 1) To set the current time, rotate the outer ring until the arrow head lines up with the correct time.  
This is a 24-hour clock so 1 to 12 on the clock indicates 1am to noon and 13 to 24 on the clock indicates 1pm to midnight.
- 2) To set the time that the pump will operate, move all tabs outward during the time period. Example: To set on at 7:00am and OFF at 10:00am, move all of the tabs between 7 and 10 to outward position.
- 3) By following the instructions in step 2 multiple on-off cycles can be set.
- 4) The override switch has 3 positions The "I" indicates the pump will run continuously (24 hours a day). The position next to the clock symbol indicates the pump will follow the settings of the tabs. The "O" indicates the pump is off (not running).

**For Digital Timer models refer to the attached Grasslin Model FM1D14 Instructions.**