

**AMH1K-6ODRZT1** for Tankless Applications without Built-In Pump in the Tankless Heater  
 Installation and Operating Instructions for Instant Hot Water Recirculation Systems

**NSF 372 Approved**

Thank you for choosing the **AMH1K-6ODRZT1** Instant Hot Water Recirculation System by AquaMotion, Inc for single pipe tankless systems. Please read and follow these step by step instructions to ensure that the system operates properly and reliably. The **AquaMotion ODR Valve** is a small, quiet, stainless/brass hot water recirculation valve. It installs at the fixture furthest from the hot water tankless heater. It acts in conjunction with a circulator to supply instant hot water. The ODR Valve mounts below the fixture between hot and cold supply lines. It installs on the cold water shut off valve at point of use. As hotter water reaches the ODR Valve it closes when a 95°F temperature is reached at which point the valve automatically adjusts to maintain this temperature.

**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 AMH1K-6ODRZT1 Kit includes:

- AM6 AquaMotion Circulator with a built-in timer and a 10 Ft line cord.
- AquaMotion AMK-ODR Bypass Valve Kit (ODR Valve, Tee, Hose)
- 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 Gaskets
- 5 Ft. Copper 3/8" ODT tubing

**Tools Needed:**

- 5/8" open end wrench
- 1" open end wrench or an adjustable crescent wrench that opens to 1"
- Two Pipe wrenches that open to 1.5"
- NFS Pipe Dope or Teflon Tape

**Limits**

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

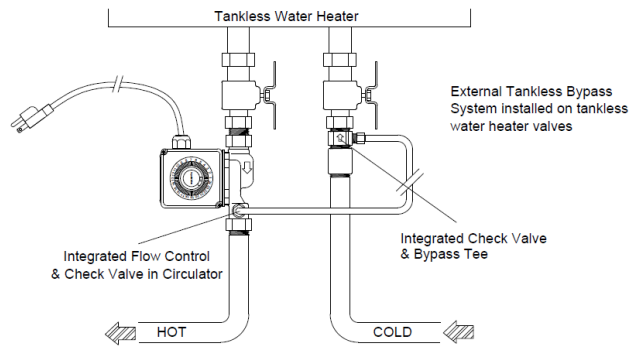
**Pump Installation**

**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 Bypass Tee the 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.
- 10) Thread the 3/4" MNPT threads on the Tee into the inlet port of the tankless heater. Make sure the arrow on Tee points to tankless inlet. thread the cold water inlet line into the 3/4" FNPT threads on the Nipple Check Valve using pipe dope or Teflon tape on the threads.
- 11) Install the cooper tubing on the 3/8" OD compression fitting on the Tee and tighten the compression nuts. When installing remotely, if a longer connection is needed, use 3/8" OD copper tubing. 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.
- 12) Check for leaks.
- 13) Turn on or plug in the power for the tankless heater.
- 14) Open the gas valve if it is a gas fired tankless heater.
- 15) Plug the circulator into a properly grounded 115V outlet. Set the timer, see Mechanical Timer Operation or Digital Timer sections.





Pump Installation



Components for Under Sink Installation

### Valve Installation Installation and Operating Instructions

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

#### 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 tankless heater. If there are separate hot water branches in the residence, additional valves may be required.

- 1) Close both the hot and cold angle shut off valves under the sink.
- 2) Open both the hot and cold water faucets to relieve the water pressure.
- 3) Place a pan or rag below the connections to catch any water that may leak from the risers.
- 4) Disconnect the riser pipes or hoses from the angle shut off valves.
- 5) Install the ODR valve onto the Cold Water Angle Stop using the 3/8" compression nut on the ODR valve.
- 6) Attach the cold water riser to the ODR valve.
- 7) Install the Tee from the kit to the Hot Water Angle Shut Off valve using the 3/8" compression nut on the Tee.
- 8) Attach the 1/2" hose from the kit between the 1/2" connection on the ODR valve and the 1/2" connection on the Tee.
- 9) Open the hot water angle shut off valve and the cold water faucet to purge air from the line and valve.
- 10) Close the cold water faucet and open the cold angle stop valve.

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

#### 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

##### 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 when the pump will run. 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 "On" indicates the pump will run continuously (24 hours a day). The timer position next to the clock symbol indicates the pump will follow the settings of the tabs. The "Off" indicates the pump is off (not running).

