Instruction Sheet **Effective 3/16/2020**

Kit No. AMH1K-7ODRXZT1

IS-AM09-599

Patented & Patent Pending

AMH1K-7ODRXZT1 for Outdoor Tankless Applications without Built-In Pump in the Tankless Heater
Installation and Operating Instructions for Instant Hot Water Recirculation Systems

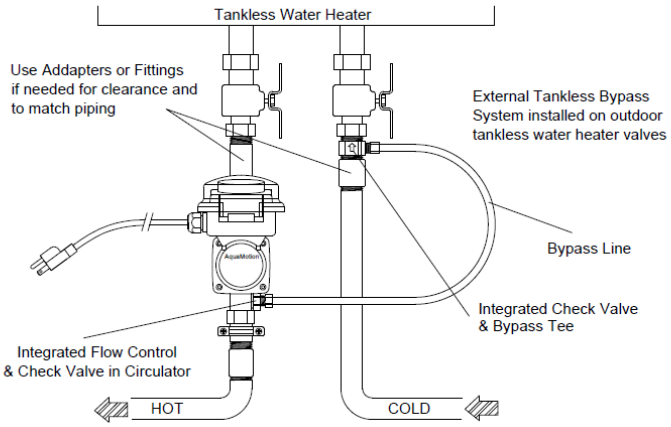
NSF/ ANSI 372 Approved, UL, ULC Listed

Thank you for choosing the **AMH1K-7ODRZXT1** 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 can be installed at the fixture, furthest from the hot water tankless heater. When installed at the furthest fixture, all fixtures in between will benefit and will produce hot water moves quickly. 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 begins closing when a 95°F temperature is reached, the valve automatically adjusts to maintain this temperature. The circulator can be installed indoors or outdoors.

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-7ODRXZT1 Kit includes:
AM7 AquaMotion Circulator with check valve, built-in timer, 10 Ft line cord and flow control to bypass up to 1 GPM.
ODR Undersink Valve, Tee, 3/8" Compression 24" hose ½" x ½"
Two 3/4" NPT Male Tail Pieces with 1" Union Nuts and Gaskets
2 Ft. Stainless Braided Hose, 3/8" compression x 3/8" Compression
3/4" NPT x 3/4" NPT x 3/8" Compression Tee Fitting (Contains Check Valve)

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"
NSF Pipe Dope or Teflon Tape

Limits
Maximum water temperature 150^{0}F
Maximum Pressure Rating 125 psi



Pump Installation
Warning: Do not plug the pump in until the pump install is complete.
Follow National and Regulation Plumbing Codes.
Warning: Risk of Electrical Shock. Only install with the outdoor box cover facing upwards when the cover is in the closed position.
Mount the pump where it will not be exposed to direct sunlight, sprinklers or rain.

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 Tee sitting 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 ¾" male tail pieces and thread the tail piece into the outlet port of the tankless heater or adapter (not supplied) if room is needed to allow the timer cover to open. (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. Note: The timer cover must face upwards to protect the pump from water intrusion.
7) Allowing room for the pump (5") thread the other tail piece and nut onto the hot water line to the fixtures. Ensure there is space available to open the cover.
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 ¾" 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 onto the ¾" FNPT threads on the Nipple Check Valve using pipe dope or Teflon tape on the threads.
    Install the braided hose onto the 3/8" OD compression connections between the pump and the Tee and tighten the compression nuts. When installing remotely, if a longer connection is needed, use 3/8" OD copper tubing*. *If the braided hose is used, discard the 2 compression nuts and ferules. 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.
11) Check for leaks.
12) Turn on or plug in the power for the tankless heater.
13) Open the gas valve if it is a gas fired tankless heater.
14) Plug the circulator into a GFCI 115V outlet. Set the timer, see Mechanical Timer Operation or Digital Timer sections. Place the stainless bolt and nut into the locking tabs on the timer cover and base.

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Kit Components

Components for Under Sink Installation

Valve Installation

Installation and Operating Instructions

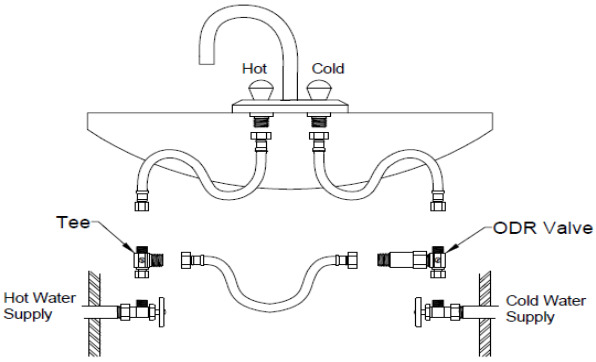
Warning: This is not an anti-scald valve.

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 ½" hose from the kit between the ½" connection on the ODR valve and the ½" 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 indicates the pump will follow the settings of the tabs. The "Off" indicates the pump is off (not running).