Effective: 6/11/18
Kit: 100306290

# Instruction Sheet: APCOM Model #RT1

For use with Tank Systems (Dedicated Return Line)

## APPLICATION

The APCOM Model #RT1 circulators are designed to deliver hot water instantly at all points of use between the hot water tank and the dedicated return line. Water savings can be as great as 12,000 – 15,000 gallons per year with 4-5 taps in a home. The APCOM Model #RT1 circulator together with the APCOM "On-Call" accessories are designed to be user friendly, reliable and to produce a professional installation.

## ELECTRICAL SHOCK RISK

Contact with the electrical parts can result in severe injury or death from electrical shock. To reduce the risk of shock, follow these instructions:

- Turn off power to your water heater at the circuit breaker before installing.
- Turn off power to water heater and recirculation system before servicing.
- Use a non-contact circuit tester to confirm that power is off before working on or near any electrical parts.
- Do not plug in circulation pump until installation is complete and insure that it is plugged into a grounding type receptacle.
- Use only in proper applications and do not install outdoors or in pool or marine areas.
- Observe all applicable electric and plumbing codes.

**NOTICE:** This circulator has been evaluated for use with water only. The suitability of this circulator for use with liquids other than water is the responsibility of the end user.

## SYSTEM REQUIREMENTS

Minimum water pressure 20 psi  Maximum water pressure 125 psi
Maximum water temperature 230F (110C)

## SCALDING RISK

- Both commercial and residential water heaters can make water hot enough to cause severe burns instantly, resulting in severe injury or death.
- Higher temperatures increase the risk of scalding, but even at 120°F, hot water can scald.
- Always feel water before bathing or showering. Water heaters can generate water hotter than its temperature setting in certain circumstances.
- To reduce the risk of scalding, Thermostatic Mixing Valves (temperature limiting valves) should be installed at each point-of-use. These valves automatically mix hot and cold water to limit the temperature at the tap. Mixing valves are available from your local plumbing supplier.  Follow manufacturer's instructions for installation and adjustment of the valves.
- THIS PRODUCT IS NOT AN ANTI-SCALD DEVICE

## SHIPMENT INSPECTION

Examine all components carefully to ensure they are all present and they have not been damage in transit to you. Care should be taken to avoid dropping or mishandling the circulator. Damage to the circulator may occur if it is dropped.

## KIT CONTENTS

The APCOM Model #RT1 packages include:
(1) Pump model AM7-SUVA1L, complete pre-wired 10 foot flexible cord with 3 prong plug.
¾" NPT male Union Tail Pieces
Union Nuts
(2) Union Gaskets

## REQUIRED TOOLS

2 - Pipe wrenches which open to at least 1 ½'
1 - Adjustable wrench which opens to at least 1 ½"

## INSTALLATION INSTRUCTIONS

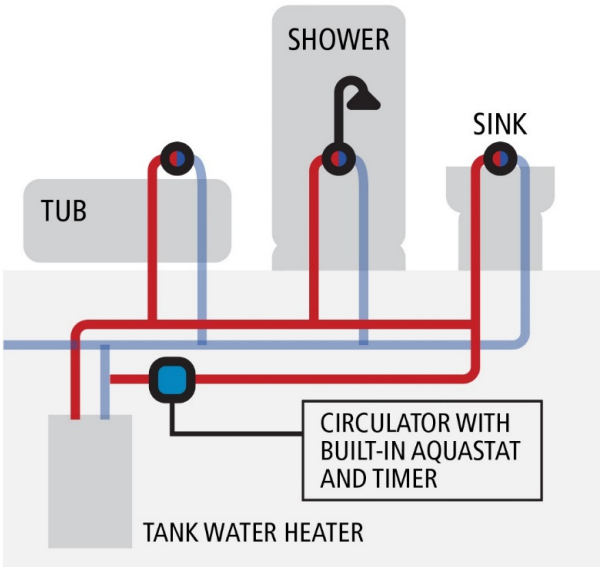
1. Turn off the power to your hot water tank at the circuit breaker.
2. Close the valve on the cold water supply line to the hot water tank. If you do not have a valve on the cold water supply line close the main water valve to the house.
3. Attach a hose to the drain valve on the hot water tank and run the hose to a drain or into a bucket.
4. Open the drain valve and allow the system to drain down. Note: Opening the faucet at a sink may speed the draining process.
5. Separate the piping were you will be installing the circulator. Note: On hot water tank systems the circulator will need to be a minimum of **3 feet away** from the hot water discharge of the tank to avoid heat migration from the tank.
6. The fittings (Tail Pieces) in the kit have male NPT threads. Adapters that will accept ¾" male NPT will need to be installed onto the separated ends of the pipes. These adapters will be unique to your systems pipe size and pipe type and are not included in the kit. Install the adapters allowing space for the kit fittings and the circulator (approx. 7 ¾").After the system has drained down remove the drain valve from the hot water tank.
7. Stick one of the ¾" NPT male tail piece supplied with fitting kit through one of the union nuts from the kit and thread it into the adapter using the flats on the tail piece to tighten it into the adapter. Apply pipe dope or Teflon tape to the male threads prior to installing the tail piece into the adapter. Repeat this procedure with the other tail piece.
8. Place one of the gaskets supplied in the kit between the circulator discharge and the tail piece which is now attached to the discharge piping and thread the nut to the circulator. Note: The discharge end of the circulator is the end the arrows on the stainless casting point at. Place the other gasket between the tail piece on the inlet pipe and the circulator inlet. Tighten both union nuts.
9. The circulator will need to be supported either by the piping or by pipe hangers which can be mounted at the tail pieces.
10. Open the valve in the cold water supply line to the hot water tank. Check for leaks at the fittings. If a leak occurs retighten or refit the joint. Note: To allow trapped air to escape open a hot water faucet and allow the water to run until it is clear of bubbles.
11. Turn power on for the hot water tank at the circuit breaker.
12. Plug the circulator into a properly grounded GFIC outlet.
13. Remove the dust cover from the timer and follow the step by step directions in the timer instructions to set the timer to meet your hot water needs. Note: If a protracted power failure occurs the timer time of day setting will need to be reset
14. When the timer is in its run mode hot water will circulate through the hot water supply line to the fixtures and back through the dedicated return line to the heater until the temperature at the circulator reaches 100° F. The circulator will then turn off until the water temperature drops to 85° F at which point the cycle will begin again until the timer shuts off.

**Circulators are of stainless construction All Fittings are lead free**

Effective: 6/11/18
Kit: 100306290

# Instruction Sheet: APCOM Model #RT1

For use with Tank Systems (Dedicated Return Line)




Installation Diagram APCOM Model #RT1

## Mechanical 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 mornings 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 the tabs outward during the time period. Fig. 1.
   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. Fig. 2. 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).


Fig. 1


Fig. 2