

## Instruction Sheet for Water Lubricated Pumps with Replaceable Cartridge 3 Speed Models

Effective 12/19/16  
Supersedes 9/1/13  
IS-AM08-072

- WARNING:** When installing pump observe all applicable electrical and plumbing codes.
- WARNING:** To avoid electrical shock, disconnect power prior to connecting or disconnecting pump.
- WARNING:** Risk of electric shock. This pump has not been investigated for use in swimming pool or marine areas.
- WARNING:** This pump is acceptable for indoor use only. Employer uniquement à l'intérieur.
- CAUTION:** This pump has been evaluated for use with water only. The suitability of this pump for use with liquids other than water is the responsibility of the end-user.
- CAUTION:** When making electric connections, do not apply excessive external loads to junction box.

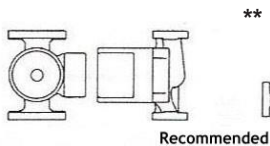
### APPLICATION

- AquaMotion circulators are designed to handle water and mixtures of water and up to 50% ethylene or propylene glycol. Not suitable for silicone based additives. The addition of certain chemical additives or petroleum based products voids the warranty.
- For closed loop systems, circulator with cast iron pump housings may be used.
- For open loops and fresh or potable water, use pumps with stainless steel housings only.
- Operating pressures may not exceed 125psi.
- Maximum fluid temperatures must not exceed nameplate rating.
- Maximum ambient air temperature is 104°F. ((For higher ambient temperatures consult factory).

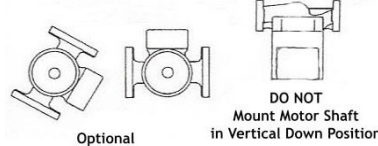
### INSTALLATION AND START- UP

- Prior to installation, check circulator for damage due to mishandling.
- Mounting position: The circulator may be installed with the motor in the horizontal position or vertically with the motor up. (Do not install with the motor down).
- Flow directions: An arrow on the pump housing indicates the direction of flow.
- Rotating motor: The motor can be rotated relative to the pump housing so that the junction box is located in the most convenient position. However, it must not be located at 6 o'clock when the motor is horizontal. To rotate the motor, remove the four housing bolts, rotate and replace bolts. Make sure the O-ring gasket is properly located in the recess of the pump housing.
- Electrical connections: **OBSERVE ALL APPLICABLE CODES WHEN CONNECTING POWER.** Check nameplate for voltage and ampere draw. The motor is impedance protected; no additional overload protection is required. The black supply wire may be connected to either motor wire. The pump cannot run backwards. Use supply wires rated not less than 90°C. Use copper conductors only. **Attention:** Employer des fils d'alimentation pour 90°C. Utilisez des conducteurs en cuivre seulement.
- Charging the system: The bearings of the AquaMotion pumps are lubricated by the fluid being pumped, hence they never need to be lubricated. However, to assure adequate initial lubrication, the system must be filled and pressurized. In vertical position, a minimum of 20psi is required. **DO NOT OPERATE THE PUMP UNTIL SYSTEM IS PROPERLY FILLED AND PRESSURIZED**
- When system has been properly filled, operate the pump for 5 to 10 minutes to further purge air from pump.
- Adjust switch position by rotating knob to correspond with desired pump output. See curves on page 2.

### Mounting Positions



**\*\*** When the circulator is mounted in this position the system pressure must be 12 psi or more.



**For Indoor Use Only**

### ELECTRICAL DATA

SPEED	AMPERE	
	All Models AM10	All Models AMR
LO	.45	.46
MED	.60	.62
HI	.75	.79

### REPLACING MOTOR ASSEMBLY

- Disconnect power.
- Reduce system pressure to zero and let fluid cool down.
- Close shut off valves. If there are no shut off valves, drain system.
- Remove pump housing bolts and pull out motor assembly.
- Install new motor assembly using new O-ring gasket. Make sure gasket is properly placed.
- Follow installation procedure to start up circulator.

### REPLACING CARTRIDGE ASSEMBLY

1. Disconnect power.
2. Reduce system pressure to zero and let fluid cool down.
3. Close shut off valves. If there are no shut off valves, drain system.
4. Remove pump housing bolts and pull out motor assembly.
5. Remove cartridge. Insert screw drivers between motor housing and square plate and force cartridge out.
6. Insert new cartridge. Cartridge consists of two parts. (On AMR models there is an O-ring between the two parts.)
7. Install new motor assembly using new O-ring gasket (two gaskets in case of AMR). Make sure gasket is properly placed.
8. Follow installation procedure to start up circulator.

### CLEANING CARTRIDGE ASSEMBLY

AquaMotion pumps are specifically designed to prevent solid particles from entering the bearing / rotor chamber of the cartridge. However, in systems heavily contaminated by dirt, construction debris, etc., particles may enter the chamber on initial filling of the system and on rare occasions cause rotor blockage.

The AquaMotion pumps are designed to permit cleaning the interior of the cartridge and de-blocking. To do so, separate the two parts (refer to #6 under "Replacing Cartridge Assembly") by grabbing the impeller and cartridge sleeve with opposite hands and pulling apart. Clean (rinse) the two parts and re-assemble.

Follow the procedure under "Replacing Cartridge Assembly."

It is also recommended to flush the system.

### REPLACEMENT OF BUILT-IN CHECK VALVE (BICV)

All models with a "V" in the model number are equipped with a check valve installed in the outlet of the circulator casing. To replace the check valve, proceed as follows:

1. Disconnect power.
2. Reduce system pressure to zero and let fluid cool down.
3. Remove flange bolts and swing pump away from the pipes. (It is not necessary to break electrical connection in most cases.)
4. Remove the check valve with a rocking / twisting motion, using nose pliers.
5. Clean out casing in check valve area.
6. Apply a film of liquid soap to O-ring of new check valve.
7. Insert new valve with O-ring leading. Press down firmly until flush with casing.
8. Re-install circulator, using new flange gaskets, if necessary.
9. Follow points 6 and 7 under Installation and Start-Up.

## PERFORMANCE FIELD

