

## Instruction Sheet for Water Lubricated Circulators AMRe-FVL (Einstein)

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**WARNING:** When installing pump observe all applicable electrical and plumbing codes.

**WARNING:** ALL electrical work should be performed by a qualified electrician in accordance with the latest edition of the National Electrical Code and local codes or regulations.

**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.

**WARNING:** To reduce risk of electric shock, per NFPA 70 (NEC), connect to an approved GCFI circuit.

**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.

**AVERTISSEMENT:** Risque d'électrocution conformément à la norme NFPA 70 (NEC) Connecter uniquement à un circuit GCFI approuvé.

**AVERTISSEMENT:** Pour réduire les risques d'électrocution, connectez uniquement à un circuit correctement mis à la terre.

### APPLICATION

1. AquaMotion circulators are designed to handle water and mixtures of water and up to 50% ethylene or propylene glycol. The addition of certain chemical additives or petroleum based products voids the warranty.
2. For closed loop systems, circulator with cast iron pump housings may be used.
3. For open loops and fresh or potable water, use pumps with bronze or stainless steel housings only.
4. Operating pressures may not exceed 145psi.
5. Maximum fluid temperatures must not exceed nameplate rating.
6. Maximum ambient air temperature is 104°F. (For higher ambient temperatures consult factory).
7. Electrical Rating 115V, 60Hz

### INSTALLATION AND START- UP

1. Prior to installation, check circulator for damage due to mishandling.
2. Mounting position: The circulator may be installed with the motor in the horizontal position. (Do not install with the motor up or down).
3. Flow directions: An arrow on the pump housing indicates the direction of flow.
4. Rotating motor: The motor can be rotated relative to the pump housing so that the cord is located in the most convenient position. To rotate the motor, remove the four housing bolts, rotate and replace bolts. Do not install the motor with the cord facing up.
5. Electrical connections: OBSERVE ALL APPLICABLE CODES WHEN CONNECTING POWER. Check nameplate for voltage and ampere draw. The circulator is thermally protected; no additional overload protection is required. The white and black supply wires 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.
6. 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. **DO NOT OPERATE THE PUMP UNTIL SYSTEM IS PROPERLY FILLED AND PRESSURIZED**
7. Run the system for at least 5-10 minutes to purge air from the pump. **If noise from the pump persists, turn the pump on and off several times to clear air from the pump cartridge. Increasing the pressure on the system or opening and closing an isolation valve on the "discharge side of the pump" will also help speed up the process.**

### REPLACING MOTOR ASSEMBLY

1. Disconnect or turn power off.
2. Unplug the power leads from the pump.
3. Reduce system pressure to zero and let fluid cool down.
4. Close shut off valves. If there are no shut off valves, drain system.
5. Remove pump housing bolts and pull out motor assembly.
6. Install new motor assembly. Make sure the motor and gasket is properly seated.
7. Follow installation procedure to start up circulator.

### REPLACING CATRIDGE 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 flat blade screw drivers between motor gasket and the tabs in the stainless cartridge. Slowly twist the screw drivers to free the cartridge. Withdraw the cartridge from the motor.
6. Insert new cartridge into the motor.
7. Follow installation and start up procedure.

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

The "V" in the model number indicates the AMRe-FVL is equipped with a check valve installed in the outlet of the circulator housing. 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 needle 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 check valve with O-ring leading. Press down firmly until the check valve seats in the housing.
8. Re-install circulator, using new flange gaskets, if necessary.
9. Follow points 6 and 7 under Installation and Start-Up.

### TROUBLE SHOOTING

1. Pump does not start when power is supplied
  - check mains and/or fuses
  - check voltage applied to the pump
2. Noise generated in the system
  - Purge air from the system
3. Noisy pump
  - Purge air from the pump
  - Increase the inlet pressure and check the air volume in the expansion tank
4. Building does not heat up
  - Turn the system off and repurge air from system

**Please contact a specialist if you cannot eliminate the fault.**

### DISPLAY

The display comes on as soon as the pump is connected to the voltage supply. It indicates the actual power consumption during operation. Faults are indicated as errors: "E0" Over Voltage, "E1" Under Voltage, "E2" Over Current, "E3" Under loading and "E4-E5" Locked Rotor.

If a fault occurs, turn off the circulator or unplug the power cord at the pump. If the fault is due to a transient voltage or current condition turning the circulator back on will clear the fault. If a locked impeller/rotor occurs a E2 or E4 fault appears and will not reset until the blockage is cleared.

### AquaMotion AMRe-FVL Performance Data

