OWNER'S MANUAL

Thank you for choosing a solar pool heater made in the USA by Aquatherm Industries, Inc. This manual explains proper operation and maintenance of your system, so that it will provide you with years of trouble-free enjoyment. Should your heater ever require service beyond the solutions outlined in this manual, first contact your installing Dealer. For additional assistance, contact Aquatherm Industries, Inc. at 732-905-9002 or info@warmwater.com.

BASIC SYSTEM OPERATION

SOLAR HEATING:

A ***solar diverter valve*** directs the flow of pool water to the ***solar collectors***. Water circulates through the many small tubes in the collectors, where it is heated by the sun before being returned to the pool.

When the solar diverter valve is closed, pool water bypasses the solar system and returns directly back to the pool.

SOLAR COOLING:

In the event your pool becomes overheated due to warmer than usual weather conditions, it is possible to cool the pool water to a more comfortable temperature by circulating it through the solar collectors during cooling conditions, usually at night.

Your solar system is equipped with either an automatic or manual valve control:

- **AUTOMATIC VALVE CONTROL:** In an automatic system, the diverter valve is opened and closed by a motorized actuator. The motorized actuator is controlled by a pool and/or solar automation system. Like a thermostat, this automation continuously compares solar heat available to heat needed to reach your set temperature.

- **MANUAL VALVE CONTROL:** A manually-operated diverter valve must be opened and closed by hand.

CHECKING FOR PROPER SYSTEM OPERATION

EACH TIME YOUR SOLAR HEATER CYCLES ON:

1. Air will initially be purged into the pool, and may last several minutes.
2. Filter pressure will increase slightly, and remain elevated as long as pool water is flowing through the solar collectors.
3. When water is flowing through the collectors, they should feel uniformly cool to the touch.

If improper operation is suspected, refer to the "Troubleshooting" section of this manual.

If water is allowed to stagnate in a solar collector, there is a potential risk of hot liquid or air being purged through the water return fittings, which could adversely affect plumbing or the safety of swimmers. Where systems do not drain back automatically to the pool when cycled off, hot liquid or gas should be manually purged from solar collectors and piping.

OPERATION DURING FREEZING CONDITIONS

In climates where pools are operated throughout the winter, it is imperative collectors and piping are fully drained during freezing conditions.

If your system is equipped with an isolation ball valve in the collector supply piping (TO SOLAR), and a check valve in the collector return piping (FROM SOLAR):

1. Turn off the filter pump and allow at least 30 minutes for water in the collectors and piping to drain-back to the pool (*if installation does not allow for gravity drainage, the system must be manually drained*).
2. Once drained, close the isolation ball valve in the collector supply piping.
3. If your system is automatically controlled, switch the solar control into the "POOL" or "OFF" position.
4. Turn the filter pump ON.
5. Once freezing conditions have passed, open the isolation valve.
6. If your system is automatically controlled, return the solar control mode to the "AUTO" position.

RECIRCULATION FREEZE PROTECTION:

If your system is not equipped with isolation valves, or cannot be manually drained, it is recommended to continuously circulate the pool water through the solar heating system at any time the outside temperature is 42°F or lower. This method is not recommended where temperature levels may drop suddenly and severely.

POOL SERVICE & MAINTENANCE

CLEANING YOUR POOL:

If you have an automatic pool cleaning system with its own pump, there are several precautions you may need to take depending on system type. These precautions prevent any air that is initially purged from the solar system from damaging pool cleaning equipment, while your your solar system is cycling on.

POOL SERVICE & MAINTENANCE (cont)

- **AUTOMATIC VALVE CONTROL:** If your automatic control system is not equipped with a timed pool cleaner delay cycle, it will be necessary to run your pool cleaner in the early morning and turn it off before your solar system cycles on. Alternatively, you can run your pool cleaner in the late morning, well after your solar system cycles on. If you manually vacuum your pool, bypassing the solar collectors at this time will provide you with full power for better vacuuming performance.

- **MANUAL VALVE CONTROL**: Do not divert the flow of water through solar collectors while the pool cleaning pump is running. Allow air to be purged from the system before activating your pool cleaning system.

FILTER MAINTENANCE:
It is advisable to bypass the solar collectors when either backwashing your filter, or when adding Diatomaceous Earth (DE). This prevents the possibility of any DE or other debris from passing through the solar system as well as any other pool equipment downstream of the filter. When the backwashing cycle and/or the adding of DE is complete, run the filtration pump for 10-15 minutes before returning your solar heating system to operation.

SERVICE

Solar collectors are often installed on roofs of buildings. Unless you are familiar with working on roofs, and have the proper ladders and safety equipment for such work, you should hire someone with the necessary experience to do the installation or service. Failure to observe safe practices on a roof or other elevated structures may result in falling, leading to serious injury to you or others.

This product shall be installed and operated in full compliance with the manufacturer's recommendations as well local regulatory and building code requirements.

As with any swimming pool equipment, periodic inspections can prevent future problems. It is suggested that you or the installing Dealer inspect your solar heater on a regular basis.

There are no special requirements for winterizing solar collectors in climates where the pool is shut down for the winter, as long as the collectors and piping have been installed to allow the system to completely drain each time the pump cycles off.

Installations where collectors are located below pool water level, where collectors lie flat on a roof or patio cover, or which have a piping configuration that does not allow for drainage of water must be checked to ensure the collectors and piping are drained.

TROUBLESHOOTING

Poor solar heater performance could be due to a number of external or environmental factors:

❒ Is the pump's strainer basket clean, and has the filter been backwashed lately? Dirt and debris in the filtration system can slow the flow of water through the collectors, reducing system performance.

❒ Is the filtration pump operating at least 8-10 hours per day during normal daylight hours?

❒ Have you been adding a lot of cold (make-up) water to the pool lately?

❒ Has the weather been cooler or dryer than usual? Low relative humidity increases heat loss.

❒ If nighttime temperatures are very cool, are you using a pool blanket to help retain heat that has been collected during the day?

❒ Is the solar diverter valve turned to direct the proper flow of water through the solar collectors?

❒ If your system is controlled by automation, is there power to the control? Check if the control is functioning properly by over-riding the "AUTO" mode and placing the control into the "ON" or "SOLAR" position.

❒ It is possible that water is not supposed to be flowing through the collectors. There may not be enough solar energy available at the moment, or the pool may have reached the set temperature.

NOTES