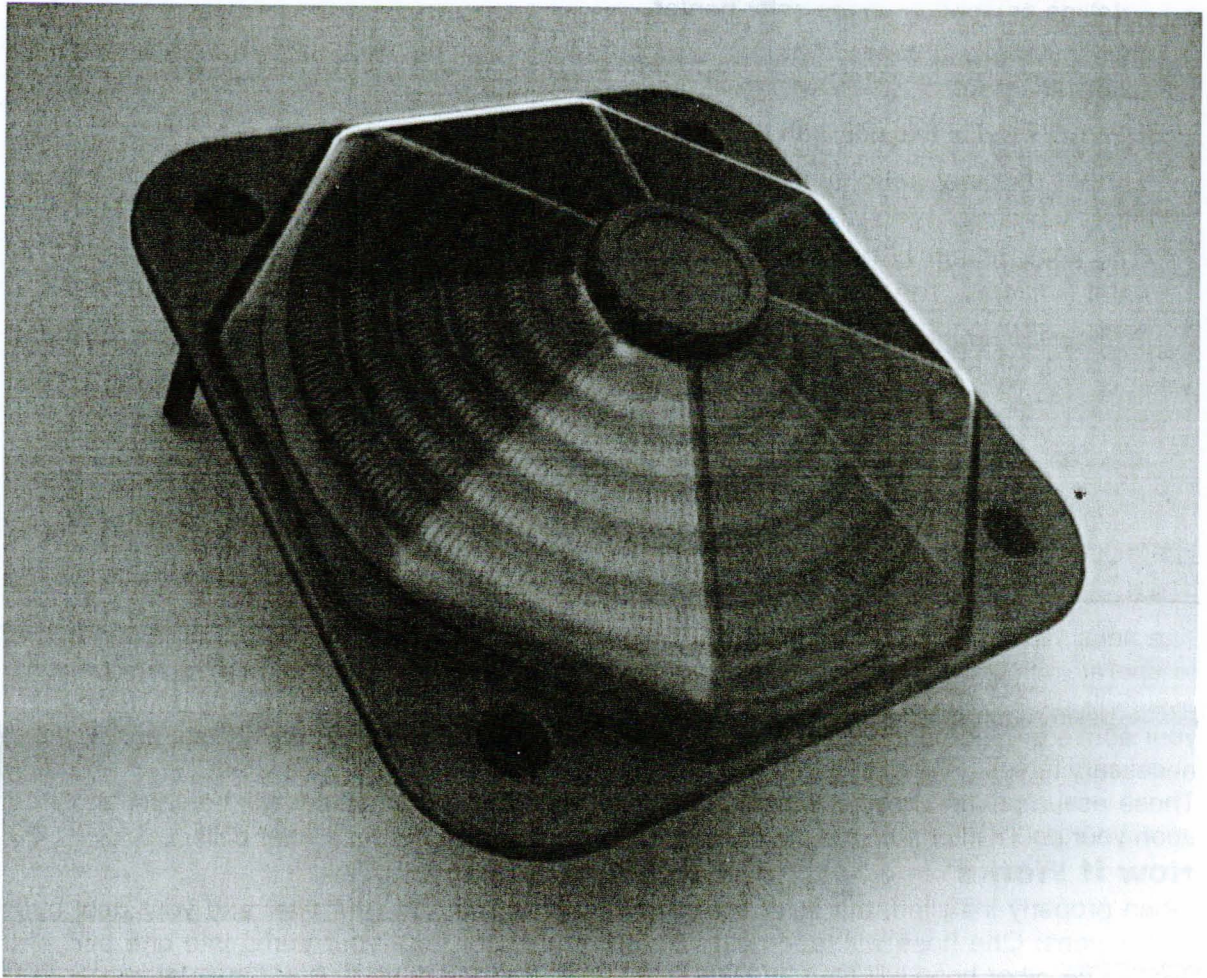


# UNIVERSAL SOLAR HEATER OWNER'S MANUAL



## **IMPORTANT SAFETY RULES**

Read all instructions BEFORE assembling and using this product.  
KEEP THIS MANUAL.



## **WARNING**

- Carefully read and adhere to all CAUTION and NOTE notices located through-out this manual. Failure to comply with these instructions can cause serious injury, death, or damage to the unit.
- Do NOT allow children to operate this Product.
- Always turn the filter system to a setting that does not allow flow to the pool return when installing or working on the solar heater.
- Install this product away from the pool to prevent children from using the heater as a way to access the pool.
- NEVER service this unit with the pool pump running.
- Do not use any petroleum based lubricant. Petroleum based products will destroy plastic parts.
- The solar heater is to be installed between the filter and the pool water inlet, AFTER the water is filtered. The heater must come after the filter to prevent buildup in the tubing.
- Before loosening any threaded connections on your filter, pump or pool, be sure that the suction and pressure hoses on the filter are closed or blocked to prevent water flow.

## **GENERAL INFORMATION**

The solar heater you just purchased for your above ground pool is simple to install and effortless to operate once connected. The installation instructions included in this manual are based on a few assumptions: 1) you have an existing above ground pool that is completely set up and filled with water, 2) your above ground pool is equipped with a pump-operated water filtering system, and 3) you have the necessary hoses needed to feed water in and out of your pool and filter system.

These assumptions are necessary as the solar heater, once installed, will be completely dependent upon your pool's filter pump to push water in and through the heater's solar coils.

### **How it Works**

When properly installed, the solar heater will be connected to your filter and your pool by two hose connections: One hose will feed cold, filtered pool water from your pump into one port of the solar heater. The other hose will feed sun warmed water from the other port of the solar heater to your pool via the pool return inlet in your pool. As cold water is fed into the solar heater, it travels through the solar coils where it is heated by the sun before it is delivered back into your swimming pool.

Know Your Pool

Before you begin installation it is a good idea to know certain specifications of your pool:

### **How big is your pool?**

How many gallons does it hold?

What size hose does it use? (i.e. 1 $\frac{1}{4}$ " dia, 1 $\frac{1}{2}$ " dia or 2 $\frac{1}{4}$ " dia) .(USE THE BLACK HOSE)

What kind of hose connection does your pool use? (i.e. threaded/unthreaded)

What location will position the heater for maximum sun exposure?

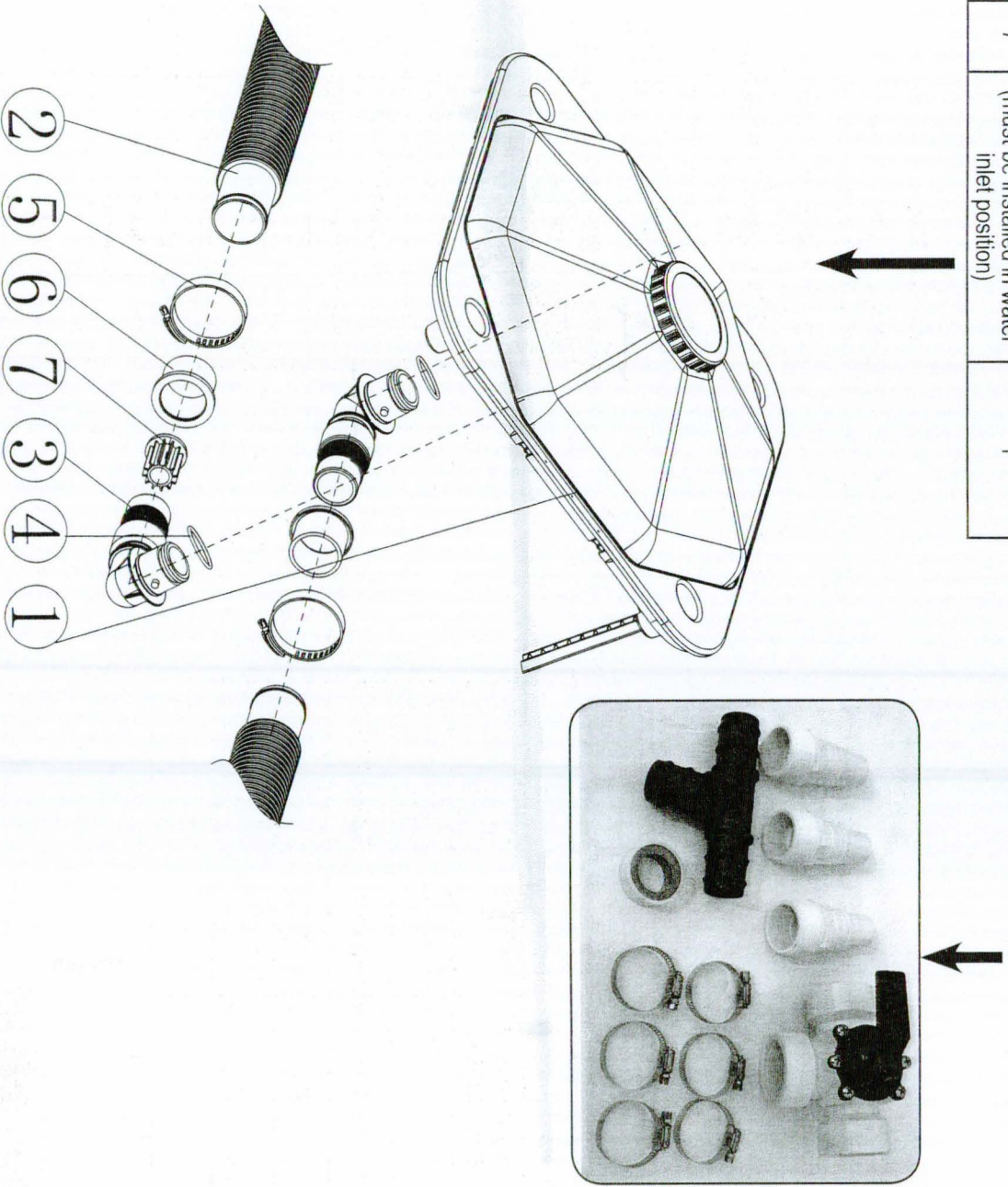
### **Solar Heater Location**

Your solar heater needs to be located on a hard level surface. You will need to position the heater lower than the pool's water level and at a safe distance away from the pool.

## STEP 1: PARTS LIST/REFERENCE

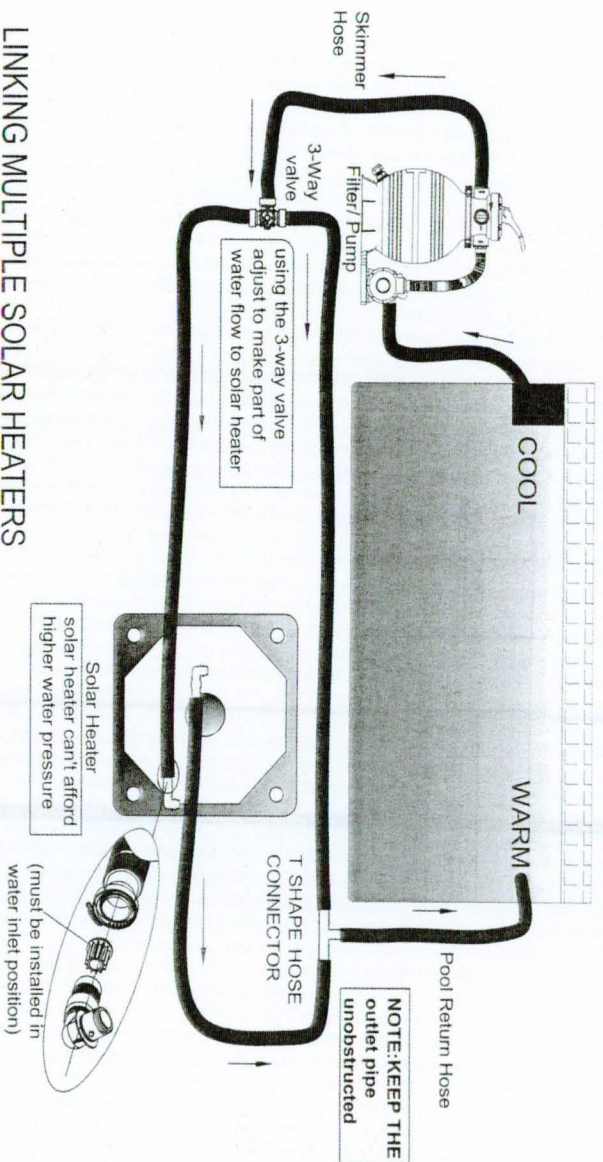
Primary Components		
NO:	DESCRIPTION	QUANTITY OF COMPONENTS
1	MAIN BODY	1
2	1 1/2" FILTER HOSE	1
3	SIDE HOSE CONNECTOR	2
4	O-RING	2
5	HOSE CLAMP	2
6	1 1/4"-1 1/2" HOSE REDUCER	2
7	WATER CONTROLLER (must be installed in water inlet position)	1

DIVERTER KIT		
NO:	DESCRIPTION	QUANTITY OF COMPONENTS
1	3 WAY VALVE	1
2	T SHAPE HOSE CONNECTOR	1
3	ADAPTOR	3
4	HOSE CLAMP	6
5	TEFLON TAPE	1

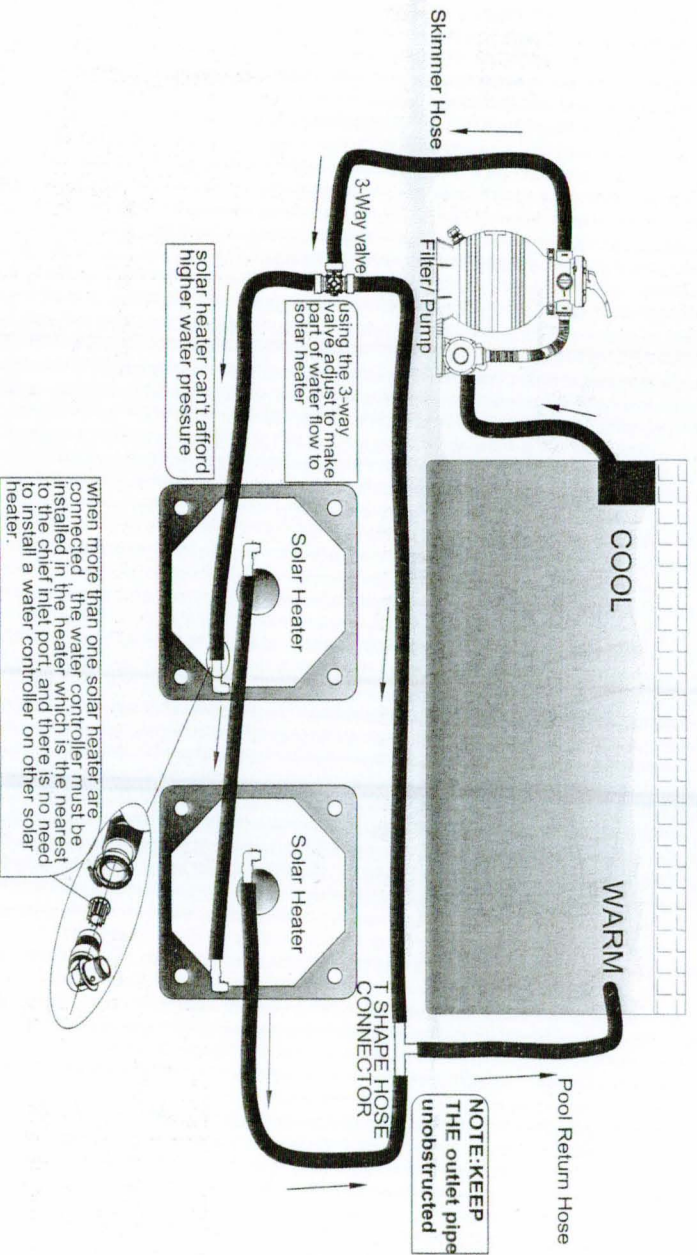


## STEP 1: INSTALLATION INSTRUCTIONS Heater – Filter – Pool Layout

The system layouts below will help you install the solar heater(s) to your above ground pool.



## LINKING MULTIPLE SOLAR HEATERS



**NOTE:** The connections here show the water flowing into the Solar Heater through the center connector and out through the side hose connector. This diagram is for reference only as the flow may be reversed if you choose (i.e. the water flow coming in through the side hose connector and out through the center hose connector). The WATER CONTROLLER must put into the water inlet position.

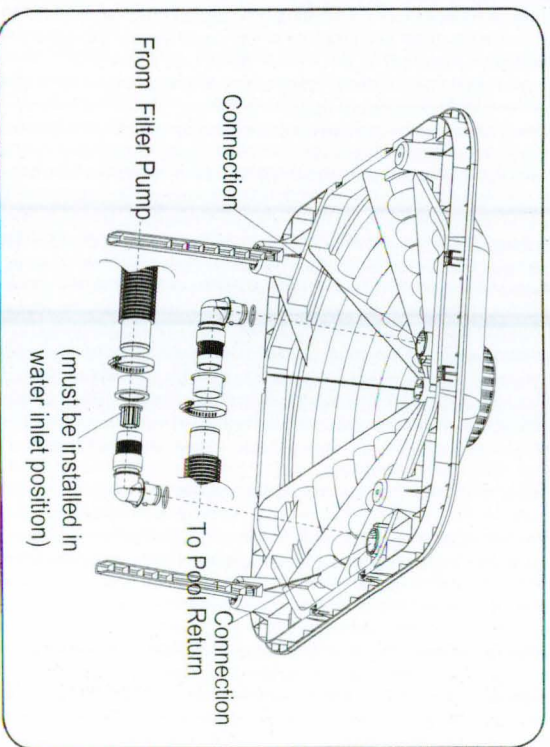
The diverter kit could be connected by several ways, but the solar heater must be intalled with diverter kit, or it will affect other equipments working and shorten the solar heater life time.

## Heater - Pool Connections

**NOTE:** Turn off the pump when connect the solar heater. block water flow at the pool return inlet and outlet. The water controller must be installed at the inlet port of the solar heater,(when more than one solar heater are connected , the water controller must be installed in the machine which is the nearest to the chief inlet port, and there is no need to install a water controller on other solar heater. Water should flow into the smaller port of the heater and out from the bigger one so that the water pressure can be better controlled). Besides, the outlet port of the pool filter system must be unblocked when the solar heater is in use. Above suggestions will make the solar heater to bear less pressure, and keep longer life.(the water pressure in the solar heater won't influence the heating effect.)

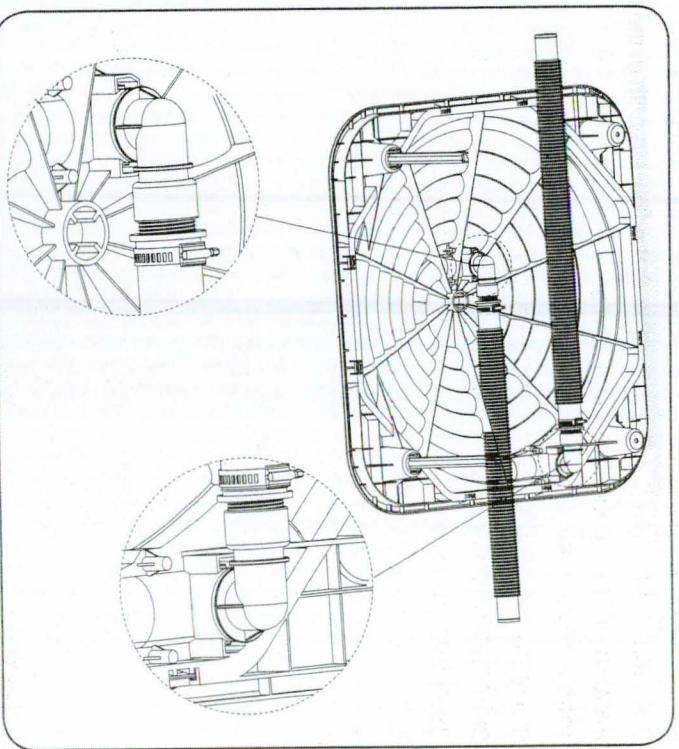
### 1. Solar heater - Filter Pump Connection

- A. Put the **WATER CONTROLLER** into the water inlet position
- B. Connect with the hose and clamps (and refer the diameter of the filter hose to decide use hose reducer or not)
- C. Using the screw drill fix the clamps
- D. Apply a small amount of silicone based lubricant to the O-Ring, and put O-Ring into the side hose connector
- E. Another end of the filter hose to connect with 3 way valve.



### 2.Solar heater - Pool Connections

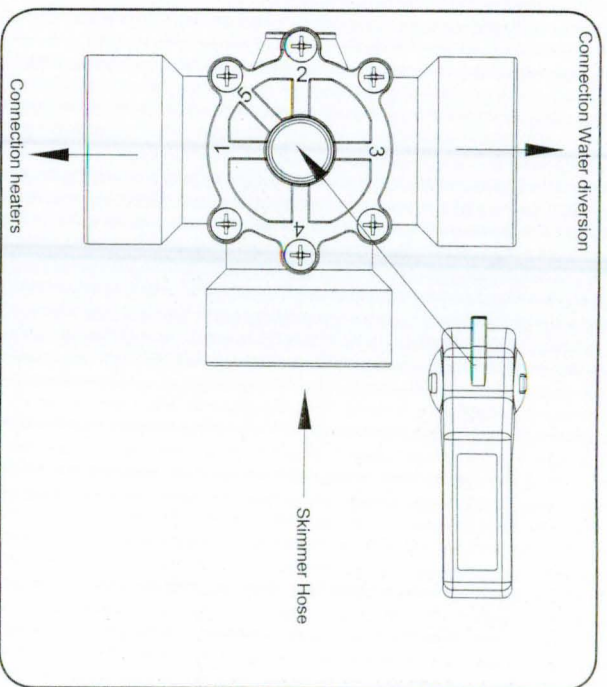
- A. connect with the hose and clamps (and refer the diameter of the filter hose to decide use hose reducer or not)
- B. Using the screw drill fix the clamps
- C. Apply a small amount of silicone based lubricant to the O-Ring, and put O-Ring into the side hose connector
- D. Another end of the filter hose to connect with T shape hose connector.



**NOTE:** The short hose is only used to connect multiple solar heaters together.

## How to use 3-Way valve

- a. Position the 3-Way valve at point 2, suitable for pump 0.25HP to 1HP.
- b. If the solar heater not work, position the 3-Way valve on point 1
- c. If the Pump greater than 1HP, position the 3-Way valve on point 5
- d. If the pump smaller than 0.2HP, position the 3-Way valve on point 3



## TROUBLE SHOOTING

Problem	Possibilities/Solutions
Does not appear to be heating the pool	<p>Check to make sure the water is flowing through the tubes.</p> <p>Check the flow strength at the pool inlet Has it been sunny? Additional heaters may be necessary.</p> <p>There could be a clog in the tubing, try to purge out the clog</p>
Leaking heater	<p>Check the connector seals and replace or repair if defective.</p>
Bubbles continue to flow out of the pool water inlet well after the pump has been turned on	<p>Check the connections for a suction leak.</p> <p>There could be a break in the tubing.</p> <p>There could be a clog in the tubing, try to purge out the clog Check to make sure the flow rate is normal</p>