



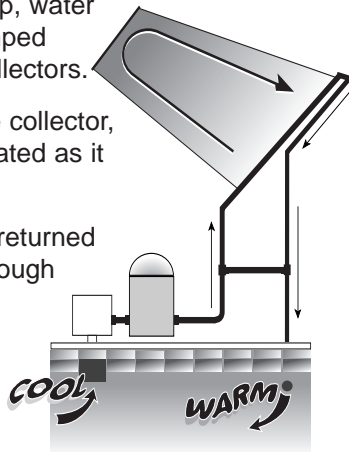
SWIMMING POOL SOLAR HEATING SYSTEMS

for Aboveground Pools

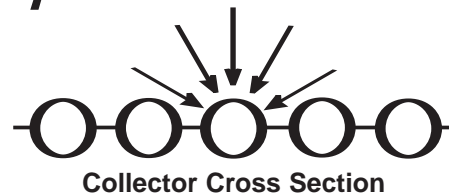
INSTALLATION & OPERATION MANUAL

How Solar Pool Heating Works

- Using your pool pump, water is automatically pumped through the solar collectors.
- As sun shines on the collector, the water is then heated as it moves through it.
- The heated water is returned back to the pool, through your return lines.
- You enjoy your own heated pool with no fuel costs.



Why Solar Heat Works Best



- Water is heated as it moves through the many tubes in the solar collectors.
- Tube and web design traps heat and catches light as the sun moves across the sky.
- Tough polypropylene material won't rust, corrode or scale. Plus, the collector is reversible.

PLEASE READ THIS MANUAL CAREFULLY. YOUR ENJOYMENT OF YOUR SOLAR HEATED POOL AND YOUR WARRANTY ARE AFFECTED BY HOW YOUR SOLAR HEATING SYSTEM IS INSTALLED

CAUTION: a) Solar collectors are often installed on the roofs of buildings. Unless you are very 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. Failure to observe safe practices on a roof or other elevated structure may result in falling, leading to serious injury to you.

b) When installing collectors on the ground, do not build a rack support that could allow children access into the pool.

IMPORTANT READ THIS ENTIRE MANUAL BEFORE STARTING ORIENTATION

How Well Does Solar Heating Work?

A properly sized and installed system will raise pool temperatures up to 10°F during the season. You will only want to circulate water through the solar collector when the sun is shining. When it's cloudy or rainy, solar won't work as well (and you probably won't be swimming during those times), but your water will be back up to temperature after one or two warm days.

Do I Need A Special Pump?

If your pool pump is in good working condition, there shouldn't be any problem using your existing pump. A 0.75HP pump will handle installations up to 30 feet away from the pool equipment and one story up. If the collectors are cool to touch when the water is running through them on a warm sunny day, you are getting enough flow.

Where Can I Put The Solar Collectors?

Anywhere you get at least 6 hours of full sun during the day. The longer the collectors are in full sun, the better they will work. If you are mounting the solar on an angle (like a roof or rack), the collectors should face in a southerly direction.

What Tools Will I Need?

- General hand tools

For roof or rack mounting you will also need:

- Preferably a cordless drill
- 1/8" drill bit and a Phillips head bit
- Silicone sealant or a product which will secure the panels to the roof materail without causing any structural or surface damage.

What additional parts will I need to install the solar system on a roof?

- You will need the correct amount of 1.5" ABS pipe for a rigid plumbing installation going to and from your pool equipment.
-OR-
- You will need the correct amount of 1.5" Flexible continuous pipe for the plumbing, going to and from your pool equipment.

**WARNING! POSITION THE RACK SO THAT IT DOES NOT
PROVIDE ACCESS TO THE POOL FOR CHILDREN.**

How much will the solar system weigh when filled with water?

Each solar box will weigh approximately 40 lbs. when filled with water. There is very little additional load on your roof since the weight is dispersed over a large area.

How Many Panels Will I Need For My Pool Size?

Round Pool Sizes Nominal Water Depth 48"	Number of Solar Kits	Area Needed
12' to 15' Diameter	1 - 2	3 or 6 ft x 21 ft
15' to 18' Diameter	2 - 4	6, 9,12 ft x 21 ft
18' to 24' Diameter	4 - 6	12,18,24 ft x 21 ft

Oval Pool Sizes Nominal Water Depth 48"	Number of Solar Kits	Area Needed
10' x 16' to 12' x 20'	2 - 3	6, 9 ft x 21 ft
12' x 24' to 15' x 30'	2 - 4	6, 9,12 ft x 21 ft
15' x 30' to 18' x 33'	4 - 6	12,18,24 ft x 21 ft

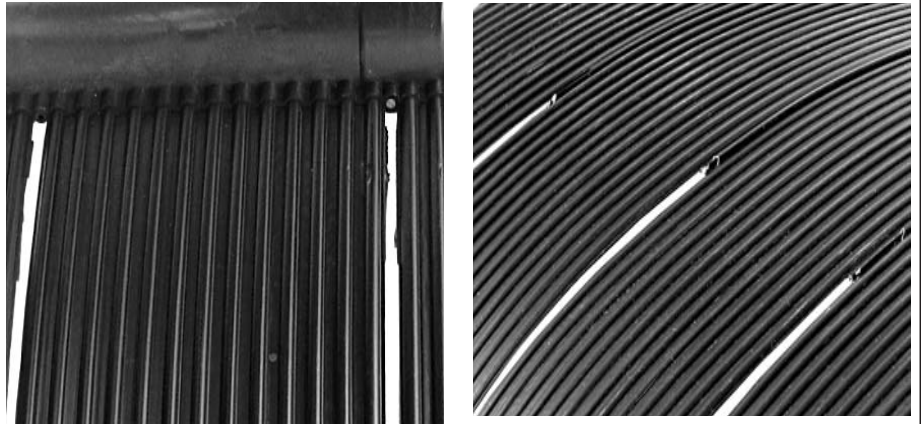
The recommended number of panels is given as a guide to ensure that you are not under sizing your solar panels. The correct number of panels will ensure your pool is heated most effectively to maximise on the available solar gain.

It is essential that you use a good quality solar blanket to increase solar gain & retention when the pool is not in use in the daytime, and also to retain the heat gained during the cooler nights or during colder spells in the weather.

UKPS Solar Panel Kit Components

Kit	Qty	Item #	Description
	1	UKPS01SOL	2' x 20' Polypropylene Solar Collector

Solar panels collectors are manufactured with special molds and materials designed to provide you with the most durable, high performance solar pool heating system available. Note: during manufacturing certain mechanical incisions are required to complete the assembly of the collector (see photos on right). These are normal and do not adversely affect the performance or durability of your panel.



Panel Dimensions - Length 6m (19' 8") - Width 730mm (2' 4")



System Fittings Kit for UKPS01SOL

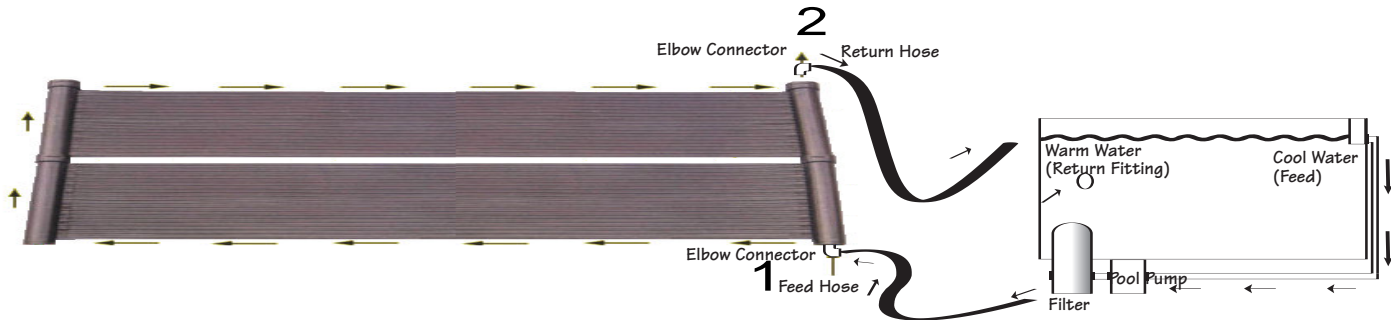
2	UKPS02SOL	Elbow Connectors 1.25" & 1.5" Hosetails
2	UKPS03SOL	PVC End Caps 1 1/2"
2	UKPS04SOL	1.25" Stainless Steel Hose Clamp
2	UKPS05SOL	1.5" Stainless Steel Hose Clamp
2	UKPS06SOL	Connection 'O' Ring
1		Installation Manual

SYSTEM LAYOUT

Single System

Required:

- Flathead screwdriver or 5/16" nut driver to tighten up the jubilee clips.
- To install your solar heating system you will require 2 hoses - one that will reach from the pool equipment to the solar panel, and and one that reaches from the solar panel back to the pool inlet fitting

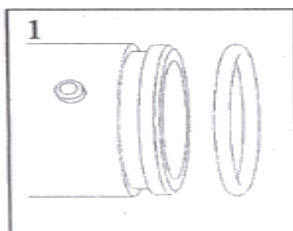


1. Provide an area that is free of any sharp objects with at least 6 hours of full sunlight a day.
2. Remove straps from collector and unroll it placing the open ended headers nearest to the pool as shown
This will allow you to connect the 2 x black hose connectors to the panel ready to accept the flexi pipe.
3. Allow the collector to relax in the sun (30 minutes to an hour). DO NOT LAY COLLECTOR ON THE GRASS IT CAN DAMAGE THE LAWN UNDERNEATH! DO NOT WALK ON COLLECTOR.
4. Turn off pool pump and isolate the water supply so that you can remove the filtered return line in readiness to connect to the panel.
5. Connect a hose from the filter to the lower elbow connector (as shown above 1). Always fill the system from the bottom.
6. Connect another hose from pool return fitting to the other elbow connector (2).
7. Now reconnect water supplies and open any valves which were needed to isolate the water originally.

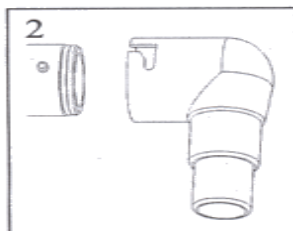
YOU ARE NOW READY TO START-UP YOUR SOLAR POOL HEATER

8. Turn on the pump. Check for leaks and tighten the connections that need attention.

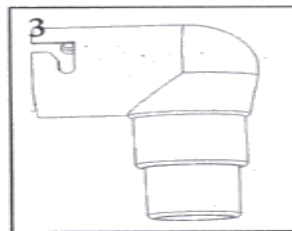
Note: Upon start-up you will see air bubbles come through the return hose. This is normal and will stop after all the air has been purged from the solar heating system.



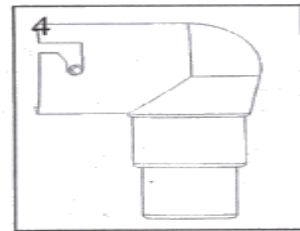
Put the O-ring on the elbow



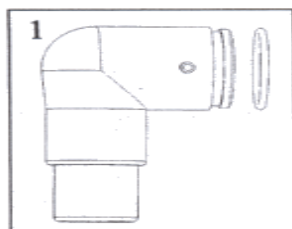
Fill the big elbow in the connector



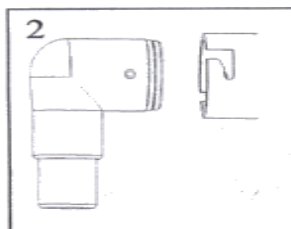
Fill totally in the bottom



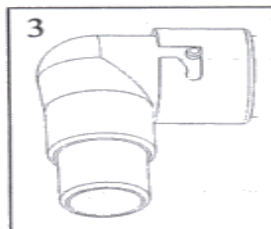
Turn the small elbow and fix it



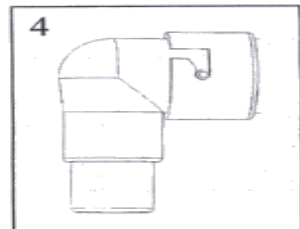
Put the O-ring on the elbow



Fill the small elbow in the connector

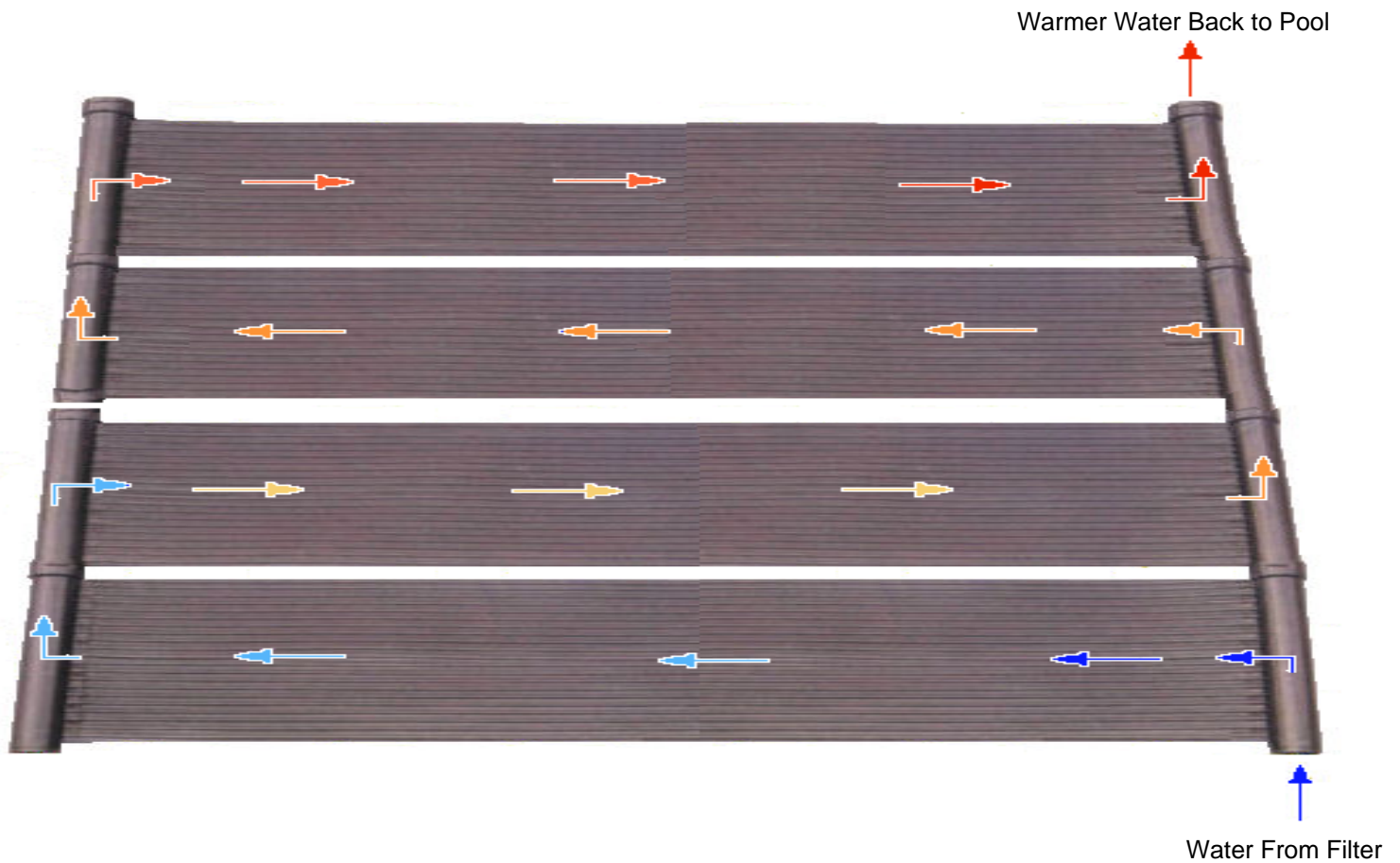


Fill totally in the bottom



Turn the small elbow and fix it

CONNECTIONS FOR TWO COLLECTORS



As you can see from the above illustration, the solar panels can easily be directly coupled together to form larger solar mats.

The panels can be joined together to make a maximum of 6 panels in a system and the panels come complete with a set of hoesetails, so if required can be connected in series using either 1.25" or 1.5" flexible hose.

OPERATION & MAINTENANCE

Operation

1. The collector should feel cool to the touch when the sun is shining on the collector and water is passing through. This means that the heat is being transferred to the water.
2. The water returning to your pool will be a few degrees (3-5 degrees) warmer than the pool itself. This is the most efficient way to heat a large body of water like a pool. Keep circulating the water and add a few degrees each pass.
3. Circulate water through the solar collector at least 6 hours per day during the daylight hours on sunny days. If you circulate your water through the collector at night, or when it's overcast or on chilly days, you will cool your pool water rather than heat it. If you need to run your pump at night, open the diverter valve so that water goes directly back to the pool, bypassing the solar system.

Winterization

YOUR SOLAR SYSTEM MUST BE DRAINED FOR WINTERIZATION! FREEZE DAMAGE IS NOT COVERED UNDER WARRANTY! YOU MUST DRAIN YOUR SOLAR COLLECTORS JUST LIKE YOU DRAIN THE REST OF YOUR POOL EQUIPMENT!

Remove the white end cap at the top of the solar system. Remove the white end cap at the bottom and be sure ALL the water is drained out of the system. Replace end caps and blow pressurized air through the system. After blowing them out, remove and store the bottom end cap for use again in the spring when you start up again. You can leave the collectors in place (as long as they are completely drained) and they will withstand even the harshest winters. Of course, you can store your collectors inside in a warm dry place if you like.

Collector Repair

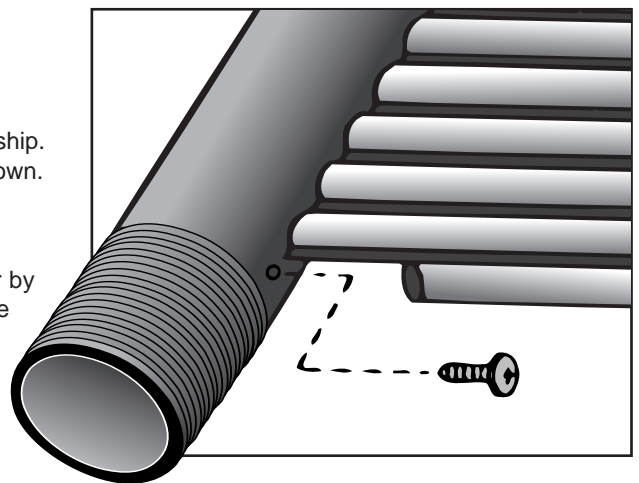
IF THE COLLECTOR DEVELOPS A LEAK

Your solar collector is warranted against defects in materials and workmanship. If a leak develops for any other reason, you may use the repair method shown. The collector is not warranted against freeze damage.

SOLAR COLLECTOR REPAIR

This method allows for an easy and permanent, on-site repair of a collector by isolating the leading riser tube. Referring to the figure at the right, locate the tube to be isolated. (End tube has been shown for clarity). Using a sharp utility knife, very carefully cut away approximately 1" of the tube at both headers. Drive a #10 sheet metal screw, preferably stainless, into the hole in the header. The screw must be between 1/2" and 3/4" long.

DO NOT OVERTIGHTEN! If the screw strips out, or if the repair leaks, use a #12 screw. This repair method will not void the collector warranty.



With proper care and winterization, you will enjoy your solar collectors for many years.

