



SWIMMING POOL SOLAR HEATING SYSTEMS

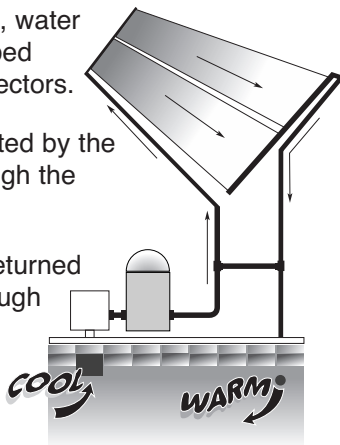
for Inground Pools

Product Number S2220IG

INSTALLATION AND OPERATION MANUAL

How Solar Pool Heating Works

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



Why SunHeater™ Works Best



- Water is heated as it moves through the many tubes in the solar collectors.
- Tube and web design traps heat, 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

How Well Does Solar Heating Work?

A properly sized and installed system will raise pool temperatures up to 10° F/6° C 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 one HP pump will handle installations up to 30' (9 m) 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 a southerly direction.

What Tools Will I Need?

- Flat head screwdriver or 5/16" (8 mm) nut driver
- Power drill
- 1/8" (3 mm) drill bit and a Phillips head bit
- Silicone sealant (GEI or equivalent)
- A Sharp Cutting Instrument or Utility Scissors

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

- You will need the correct amount of 1 1/2" (3.81 cm) Schedule 40 PVC pipe for the plumbing, going to and from your pool equipment.
- You will also need PVC primer, glue, and fittings (available where you buy PVC pipe).

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

Each solar box (2 collectors) will weigh approximately 80 lbs. (3g kg) when filled with water. There is very little additional load on your roof especially since the weight is dispersed over a large area.

WARNING! IF MOUNTING ON A RACK PLACED ON THE GROUND, POSITION THE RACK SO THAT IT DOES NOT PROVIDE ACCESS TO THE POOL FOR CHILDREN.

Inground Pools up to	Number of Solar Boxes
15 x 30' (4.6 m x 9.1 m)	2 Plus one SK21 Inground Installation Kit
16 x 36' (4.9 m x 11 m)	3 Plus one SK21 Inground Installation Kit
20 x 40' (6.1 m x 12.2 m)	4 Plus one SK21 Inground Installation Kit

Use Sunheater Liquid Heatshield to hold in heat at night and during cool weather. See www.sunheater.com.

WARNING! Use only SunHeater mounting hardware and follow the directions provided. Failure to comply will void your warranty.

Product # S2220IG Kit Components

Qty	Item #	Description
2		2' x 20' (.61 m x 6.1 m) Polypropylene Solar Collectors
1		Limited Warranty

SK60 Inground Hardware Kit (One Hardware Kit Packed In Each Solar Collector Box)

4	SC375HOSE	3 3/4" (9.525 cm) Long Rubber Hose
8	SC150CLMP	1 1/2" (3.81 cm) SS Hose Clamp 35-64
10	SCMTGBRKT	SS Mounting Brackets
10	SCSSSCREW	2" (50 mm) #14 SS Screws

Packed In heat sealed plastic bag



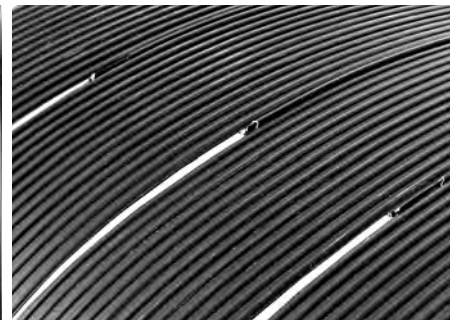
SK21 Inground System Installation/Plumbing/Mounting Kit (Purchased Separately)

1	SCSTRAP	100ft. (30.5 m) Roll of Web Strap
5	SCMTGBRKT	SS Mounting Brackets
5	SCSSSCREW	2" (50 mm) #14 SS Screws
1	SC375HOSE	3 3/4" (9.525 cm) Long Rubber Hose
1	SCVRCCK21	Vacuum Relief End Cap
1	SCRBCSK21	1 1/2" (3.81 cm) Rubber End Cap
3	SC150CLMP	1 1/2" (3.81 c.) SS Hose Clamp 35-64
2	SCPIPEADAPT	PVC to Hose Pipe Adapter
1	SC15V	1 1/2" (3.81 cm) Check Valve
1	SC3WAYDIV	1 1/2" (3.81 cm) diverter Valve
1		Installation Manual

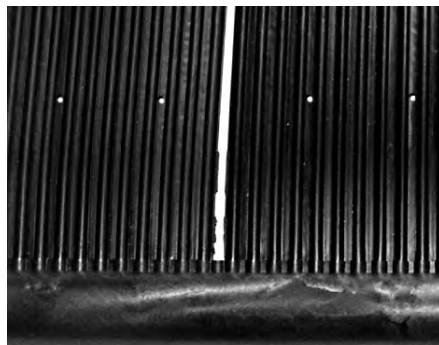
Packed in heat-sealed plastic bag



SunHeater 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 SunHeater.



Please Note: Small holes in collector (see photo at right) are NOT to be used for mounting. Use only SunHeater mounting hardware and follow the directions provided. Failure to comply will void your warranty.

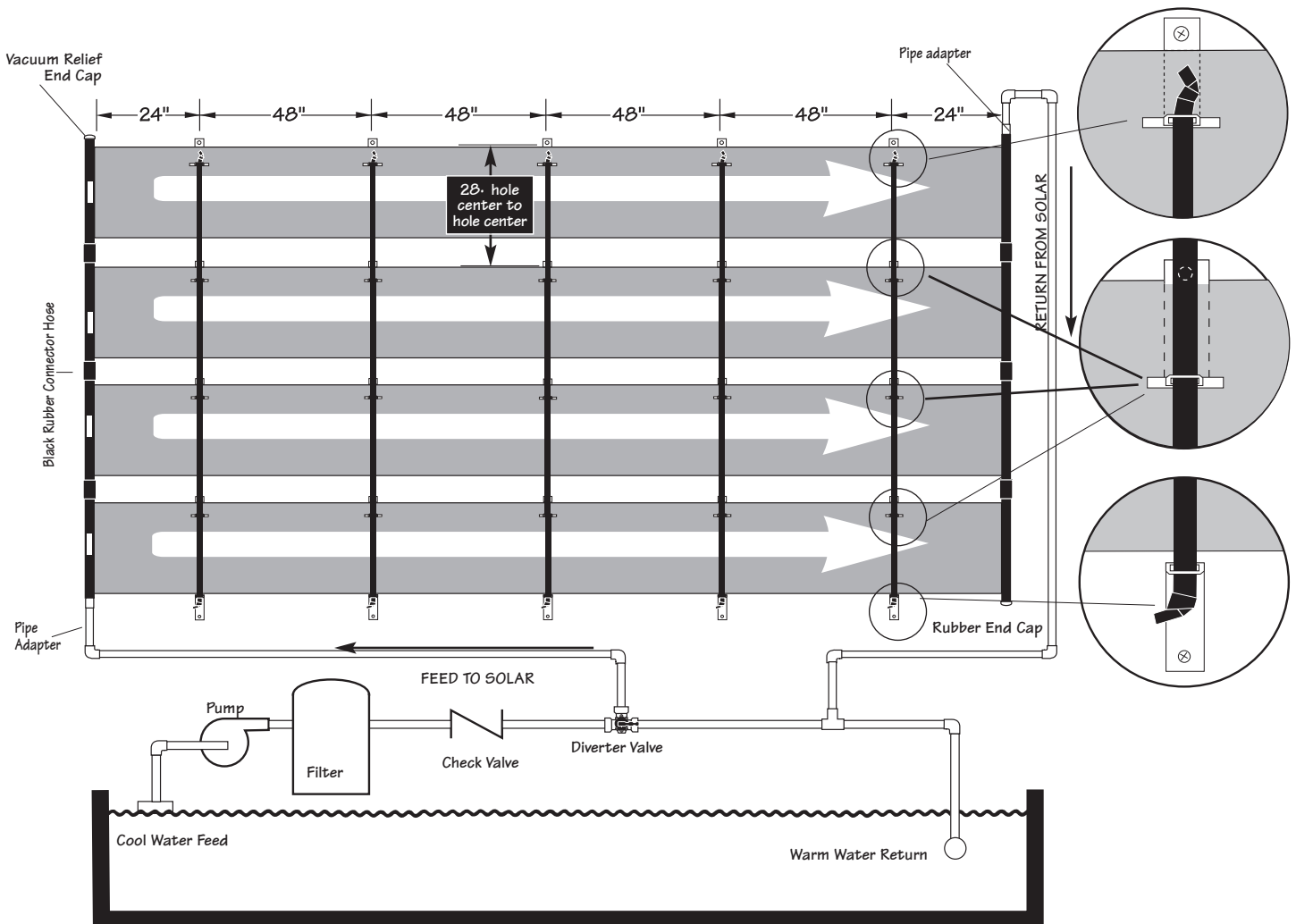


SYSTEM LAYOUT

CAUTION: 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. Failure to observe safe practices on a roof or other elevated structure may result in falling, leading to serious injury to you.

Required:

- Flathead screwdriver or 5/16" (8 mm) nut driver
- Power Drill
- 1/8" (3 mm) drill bit and Phillips head bit
- Silicone sealant (GE II or equivalent)
- Enough 1 1/2" (38 mm) Schedule 40 PVC pipe for the plumbing going to and from your pool equipment and fittings.
- PVC Primer and Glue

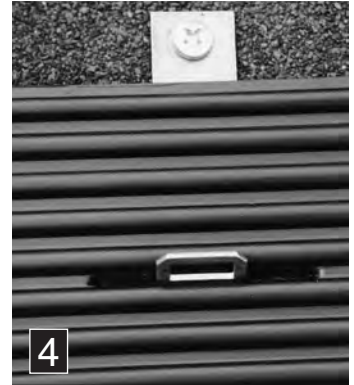


ROOF MOUNT SYSTEM INSTALLATION

1. Remove the collectors from the box and allow the collectors to relax in the sun (30 minutes to an hour). **DO NOT LAY COLLECTORS ON THE GRASS IT CAN DAMAGE THE LAWN UNDERNEATH!**
2. Allow at least one foot around the solar system for brackets, piping, and working area. Roof obstructions like vents should be taken into consideration when laying out collectors. With a roof vent up to 3" (7.62 cm) in diameter, the collectors can be placed on either side of the vent.

WARNING: DO NOT WALK ON THE SOLAR COLLECTORS

3. Determine the position of the top collector. Lay out the mounting brackets at each slot along the length of the collector. The collector should slope slightly toward the inlet point (where the water enters the collectors) to allow for drainage.
4. Drill 1/8" pilot hole for lag screws provided for all brackets. Lag screws should be long enough to reach the sub-roof under the shingles. Inject a generous amount of silicone sealant into the holes and onto the surrounding roof surface. Mount the bracket to the roof (as shown) with the bracket centered in the slot.
5. Remove and discard the black protective end caps covering the threaded ends of the header pipes at both ends of the collectors.
6. Slip the black rubber connector hoses with two 1 1/2" (3.81 cm) hose clamps over the ends of header pipes (as shown).
7. Position the hose clamps 1/2" (1.27 cm) in from each end of the rubber connector hose. Center them over the grooves on the header and tighten.
8. Begin tying the strap to the top bracket, run through the brackets below and tie to the bottom bracket (as shown).



WARNING:

USE ONLY SUNHEATER MOUNTING HARDWARE.

DO NOT CLAMP HEADER PIPES DOWN.

YOU MAY DAMAGE YOUR COLLECTORS AND WILL VOID YOUR WARRANTY.

Note: When completed, you will have five vertical straps running across each collector. For high wind areas, we recommend one SK-34 High Wind Kit for each collector. Call (732) 987-8312 for ordering info.

DO NOT MOUNT COLLECTORS USING "C" CLAMPS ON HEADER PIPES!!

9. Install the vacuum relief end cap (provided in SK21) in the rubber hose (provided in SK21) located at the top corner of the system (see page 4) using hose clamps (provided). Install the rubber end cap (provided) at the diagonal bottom corner (as shown on page 4) using a hose clamp (provided).
10. Attach barbed end of the PVC to Hose Pipe Adapters (provided in SK21) to inlet and outlet headers using rubber hose connectors (provided) and hose clamps (provided). Attach smooth ends of the PVC of the Hose Pipe Adapters (provided) to your feed and return PVC pipes (as shown on page 4).
11. Inspect all clamps for proper position and tighten (DO NOT OVERTIGHTEN).
NOTE: LAYOUT PLUMBING BEFORE PRIMING AND GLUING.
12. Run your feed and return PVC pipe from the solar to the pool equipment as shown in the diagram provided.
13. Position the Diverter Valve (provided) in a convenient area and connect (as shown).
14. Properly position the Check Valve (provided) between the filter and the Diverter Valve (as shown on page 4) (with the arrow on the Check Valve pointing toward the Diverter Valve). This will prevent water from flowing in the reverse direction into filter when the pump is turned off.
15. Prime and glue all plumbing and fittings. When gluing PVC pipe, always wipe clean parts to be glued. Apply primer to parts being joined then swath with PVC glue. Connect parts and twist quarter turn for proper bonding.

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

16. Start-up your system and check for leaks.

NOTE: Upon start-up you will see air bubbles come through the return. This is normal and will stop after all the air has been purged from the solar heating system. If not, switch the locations of the vacuum relief valve and the rubber end cap to eliminate the problem.

OPERATION & MAINTENANCE

Operation

1. The collectors should feel cool to the touch when the sun is shining on them 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° F / 2-3° C) 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, which adds a few degrees each pass.
3. Circulate water through the solar collectors at least 6 hours per day during the daylight hours on sunny days. If you circulate water through it at night, 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, divert the water directly back to the pool and bypass the solar system. An automatic controller will sense the water temperature and available radiation from the sun and automatically turn the Diverter Valve to direct the flow of water accordingly. Contact your retailer or SPQ Brands at (732) 987-8312 for purchasing details.

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 vacuum relief valve at the top of the solar system. Remove the rubber end cap at the bottom and be sure ALL the water is drained out of the system. Replace end caps and blow pressurized air in the reverse direction of normal water flow. This is the most effective way to drain your system. You can leave the collectors in place (as long as they are completely drained) and they will withstand even the harshest winters. SPQ Brands recommends that you store your collectors inside in a warm dry place.

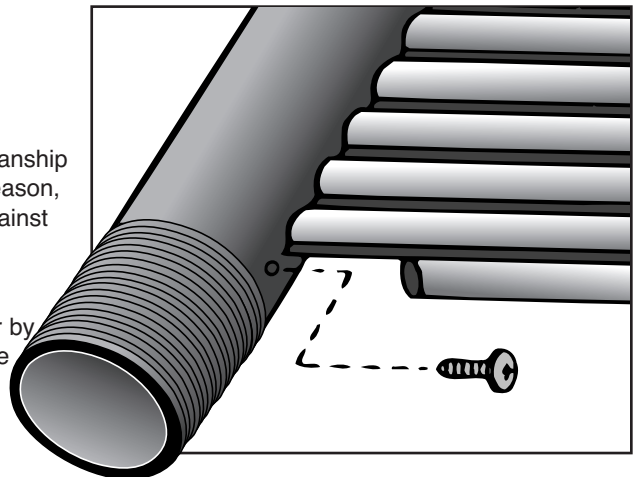
Collector Repair

IF A COLLECTOR DEVELOPS A LEAK

Your solar collectors are warranted against defects in materials and workmanship (see warranty for details and limitations). If a leak develops for any other reason, you may use the repair method shown. The collectors are 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" (2.54 cm) 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" (1.27 cm) and 3/4" (1.9 cm) 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.

SUNHEATER SOLAR COLLECTOR
Ten Year Limited Warranty
(Valid in continental US and Canada Only)

TEN YEAR WARRANTY

Ten year limited warranty from date of purchase with one year full.
After the first year, the claimant shall pay the list price at the date of the claim less one-one hundred and eighth (1/108) of that price for each full month remaining in the warranty period.

**ALL WARRANTY CLAIMS MUST BE HANDLED DIRECTLY
WITH SPQ BRANDS. DO NOT RETURN TO YOUR POINT OF PURCHASE. SPQ BRANDS ACCEPTS CLAIMS FROM POOL OWNERS ONLY.**

SPQ Brands warrants to the original purchaser of the Solar Collector that the company will, at its option, repair or replace any solar collector that proves to be defective in either workmanship or material upon prepaid return of the collector by the owner to SPQ Brands, subject to the provisions of the limited warranty stated above, and the exclusions and limitations set forth below. SPQ Brands will, pursuant to the terms of this warranty, at its sole option, either repair the collector at a nominal charge to the owner, or replace the collector per the pro-rated provisions stated herein. All repaired or replaced collectors will be returned at the homeowner's expense. The pro-rated basis for collector replacement is set forth above. Warranty valid only within the continental US and Canada.

What is covered: The solar collector is warranted to be free of defects in material and workmanship when leaving the factory.

What is not covered: Hardware; including hoses, clamps and plastic fittings; Any damage due to freezing caused by or related to improper drainage, winterization, or storage; Damage, defects, malfunctions, or other failures arising from use of the product which does not comply with the instructions provided by the manufacturer; Damage, defects, malfunctions, or other failure caused by or related to repairs performed by any servicer other than an authorized service representative of SPQ Brands. Claims will not be accepted for a collector's damage in transit unless damage to shipping container is noted at time of delivery on the transport company's delivery bill.

SPQ BRANDS SHALL IN NO WAY BE LIABLE OR RESPONSIBLE UNDER ANY CIRCUMSTANCES OR IN ANY AMOUNT FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES OR FOR ANY INJURY OR DAMAGES TO PERSON OR PROPERTY USING OR USED IN CONNECTION WITH THIS PRODUCT, OR FOR LOSS OF PROFITS OR OTHER COSTS OR EXPENSES OF ANY KIND OR CHARACTER. THERE ARE NO OTHER WARRANTIES OR REPRESENTATIONS, EITHER EXPRESS OR IMPLIED, WHETHER OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHER, MADE BY SPQ BRANDS, OTHER THAN THOSE SPECIFICALLY SET FORTH IN THIS WARRANTY. NO PERSON, FIRM, OR CORPORATION IS AUTHORIZED TO MAKE ANY REPRESENTATIONS, OR INCUR ANY OBLIGATIONS IN THE NAME OF OR ON BEHALF OF SPQ BRANDS, EXCEPT AS STATED HEREIN. THIS WARRANTY IS EXPRESSLY UNDERSTOOD TO BE THE EXCLUSIVE REMEDY AVAILABLE TO THE PURCHASER, AND THIS WARRANTY CONTAINS THE FULL AND COMPLETE AGREEMENT BETWEEN SPQ BRANDS AND THE PURCHASER. THIS WARRANTY SETS FORTH THE ONLY OBLIGATIONS OF SPQ BRANDS WITH REGARD TO THIS PRODUCT, AND THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF.

To File a Claim Call 1-609-212-0221

The representations set forth herein are the only representations made by SPQ Brands with respect to the product, and this warranty does not constitute either a performance or satisfaction guarantee. It is the responsibility of the product owner to regularly test and check the product for proper function and safety.

This warranty gives the original purchaser specific legal rights. It is not transferable. You may have other rights depending on where you live.



www.sunheater.com