



**Millstream**  
Distribution LLC

# **SUN2SOLAR™**

## **INSTALLATION AND OPERATION MANUAL**

**Model Sku #s:** 805401, 805430, 805431, 805404, 805405, 805406, 805407



**Read all instructions before assembling or using the Sun2Solar™ Heater Systems.  
Retain this Manual for future use.**

**03/16**

**Distributed By:  
Millstream Dist. LLC  
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## IMPORTANT SAFETY INFORMATION

**CAUTION:** Please read this Manual carefully and thoroughly. Improper installation or failure to comply with the guidelines of this Manual may damage the product and will void the warranty.

**CAUTION:** You are advised to consult with a professional when installing the Sun2Solar™ Heater on a roof, fence or rack system. When installing the collectors near the pool, especially on an elevated rack system, ensure that the structure does not provide access to the pool.

**CAUTION:** Installing the collectors over grass will cause damage to the lawn.

**CAUTION:** Do not walk on the collectors.

**CAUTION:** Turn off all pool equipment prior to installation.

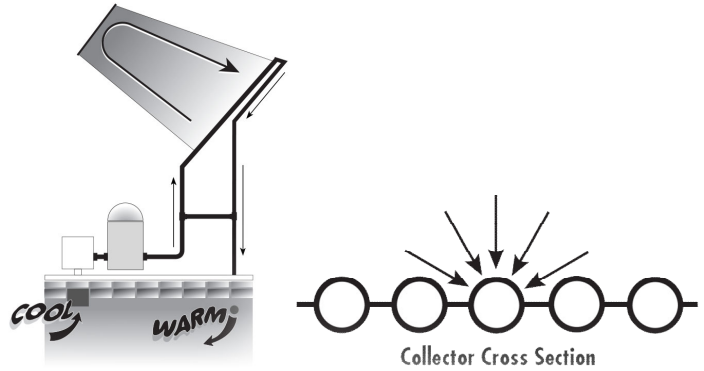
**CAUTION:** Only use Sun2Solar™ approved mounting equipment when installing collectors on a roof, fence or rack system.

**CAUTION:** Wear and tear components (**connector hoses, strapping, clamps, plastic fittings and hardware**) should be inspected regularly to ensure they are in working condition. These components are not covered by the manufacturers' limited warranty.

## HOW SUN2SOLAR™ HEATER WORKS

- \*The pool pump circulates the water through the collectors
- \* The collectors absorb the heat from the sun
- \* Warm water is returned to the pool

Sun2Solar™ heater collectors have a web construction designed for maximum heat absorption regardless of the position of the sun.



## SIZING GUIDES

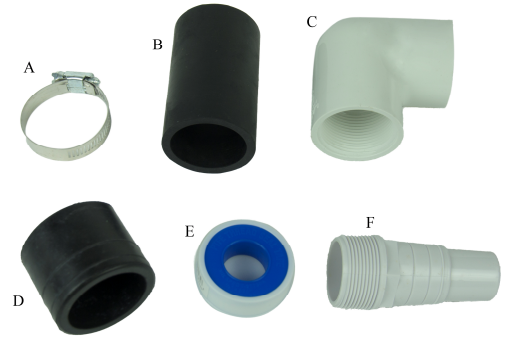
ABOVEGROUND POOLS			
Round	Oval	2 x 20	4 x 20
Up to 24'	Up to 15' x 30'	1 Box	1 Box
Up to 33'	Up to 21' x 41'	2Boxes	1 Box

The 4x20 can be used but only a 2x20 is required\*

INGROUND POOLS- SM050004			
Dimensions	2 x 20	4 x 20	Kits
Up to 15' x 30'	4 Boxes	2 Boxes	1 SM050004
Up to 16' x 36'	6 Boxes	3 Boxes	1 SM050004
Up to 20' x 40'	8 Boxes	4 Boxes	1 SM050004

## LIST OF COMPONETS

2 X 20 - 805423			
Item	DESCRIPTION	SKU#	Qty
A	1.5" Stainless Steel Band Clamp -	214201	2
A	1.25" Stainless Steel Band Clamp-	214197	2
C	PVC Elbow Connector -	214083	2
D	Rubber End Cap-	108016	2
E	Teflon Tape-	274119	1
F	Backwash Fitting-	274062	2
4 x 20 - 805 424			
Item	DESCRIPTION		Qty
A	1.5 Stainless Steel Band Clamp-	214201	4
A	1.25" Stainless Steel Band Clamp-	214197	2
B	3.75" Rubber Hose Connector-	108015	1
C	PVC Elbow Connector -	214083	2
D	Rubber End Cap-	108016	4
E	Teflon Tape-	274119	1
F	Backwash Fitting-	274062	2



## INSTALLATION

### **READ THE ENTIRE MANUAL PRIOR TO THE INSTALLATION AND USE OF THE SUN2SOLAR™ SYSTEM**

#### **TOOLS REQUIRED**

- Flathead screwdriver or 5/6" (8mm) nut driver
- \* Plug for return fitting.
- \* For roof or rack mounting
- \* Power Drill
- \* 1/8" (3mm) drill bit
- \* #2 Phillips head drill bit.
- \* Silicone sealant (GEII or equivalent)

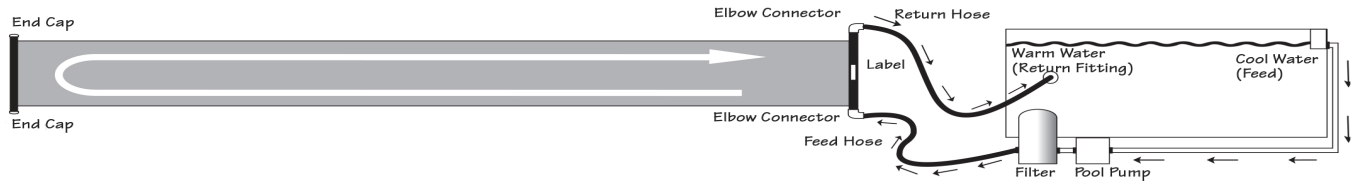
#### **GUIDELINES FOR POSITIONING**

- \* The collector(s) needs at least 6 hours of full sunlight daily.
- \* For ground installation, ensure the area is free of sharp objects prior installation.
- \* A 1hp pump will handle installations up to 30ft from the pool equipment and a height of 1 story.
- \* The collector(s) can be installed on the ground, a roof, a rack or a fence. Additional plumbing and hardware kits may be required(not included)

## 2 x 20 INSTALLATION

This layout is for a single collector near the pool filter. Installing the collector on a rood, rack or fence may require additional plumbing and hardware kits.

### Rubber End Cap

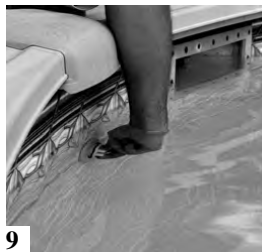
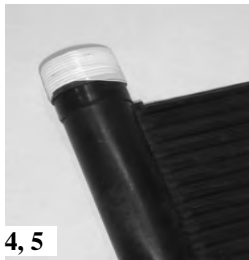


1. Ensure there is adequate work space to unroll the 20' collector.
2. Remove the collector from the box and the strap from around the collector.
3. Slowly uncoil the panel.

**NOTE: Laying on the collector in the reverse direction of the coils will help flatten the panel**

4. Remove and discard the black protective caps covering the threaded portion of the headers.
5. Wrap the threaded ends of the headers with the provided Teflon tape to ensure a watertight seal.
6. Locate the header that does not have the white serial number label and install the rubber end caps on either end of that header.
7. Locate the header with the white serial number label and install the PVC elbow connectors on either end of that header.
8. Turn the pool pump off and ensure the handle of that filter is in the **OFF/CLOSED** position.
9. Plug the return fitting to prevent water loss.
10. Remove the flex hose from the return fitting of the pool and secure it to the lower PVC elbow connector using a stainless steel clamp.
11. Secure another flex hose (not included) to the top **PVC** elbow and return fitting of the pool using the stainless steel hose clamps following the above system layout.
12. The collector is now installed and ready to use. Ensure that all fittings are secure.
13. Remove the plug from return fitting and turn the handle of the filter to the **FILTER** position.
14. Turn the pool pump to the **ON** position.

**NOTE: Air bubbles may come through the return line during the initial start-up of the collector. This is Normal and will stop after all the air has been purged from the solar heating system.**

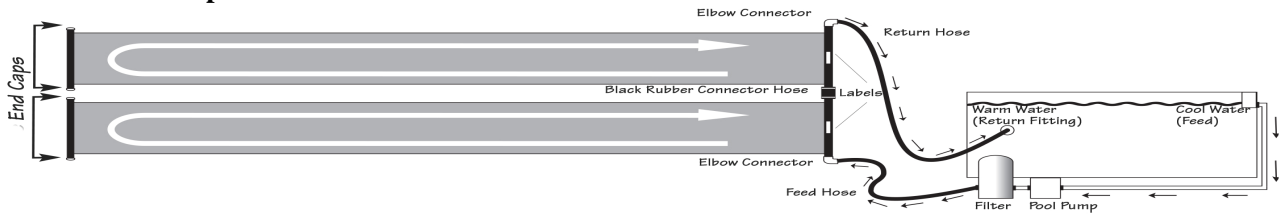




## 4 x 20 INSTALLATION OR MULTI-SYSTEM INSTALLATION

This layout is for a system of more collectors installed near the pool filter equipment. Installing the collector on a roof, rack or fence may require additional plumbing and hardware kits.

### Rubber End Cap



1. Ensure there is adequate work space to unroll the 20' collector.
2. Remove the collectors from the box and the strap from around the collector.
3. Slowly uncoil the panel.

**NOTE: Laying on the collector in the reverse direction of the coils will help flatten the panel**

4. Remove and discard the black protective caps covering the threaded portion of the headers.
5. Join the headers with the white labels together using a rubber hose connector and two 1 1/2" hose clamps. Position the hose clamps 1/2" in from each end of the rubber connector hose and tighten.
6. Locate the header that does not have the white serial number label and install the rubber end caps on either end of that header.
7. Locate the header with the white serial number label and install the PVC elbow connectors on either end of that header.
8. Turn the pool pump off and ensure the handle of that filter is in the **OFF/CLOSED** position.
9. Plug the return fitting to prevent water loss.
10. Remove the flex hose from the return fitting of the pool and secure it to the lower PVC elbow connector using a stainless steel clamp.
11. Secure another flex hose (**not included**) to the top PVC elbow and return fitting of the pool using the stainless steel hose clamps following the above system layout.
12. The collector is now installed and ready to use. Ensure that all fittings are secure.
13. Remove the plug from return fitting and turn the handle of the filter to the **FILTER** position.
14. Turn the pool pump to the **ON** position.

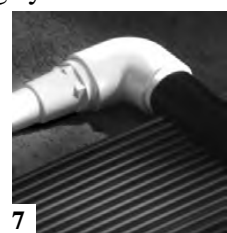
**NOTE: Air bubbles may come through the return line during the initial start-up of the collector. This is Normal and will stop after all the air has been purged from the solar heating system.**



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## ROOF/RACK/FENCE INSTALLATION

**NOTE:** The mounting hardware is sold separately. See page 7 for available kits options.

**IMPORTANT:** If installing on a roof, use silicone sealant to prevent water leakage into structure. Apply adequate amounts of sealant to both of the pre-drilled hole and over the screw head once installed.

### SETUP AND POSITIONING

- \* Allow the collectors to lay in the sun for 30 minutes to relax the material and flatten the panels
- \* Ensure there is at least 1' around all sides of the collector(s) for adequate space for connectors and plumbing.
- \* Install the collectors on a slight angle toward and end cap for draining and winterization.
- \* The panels can be placed on either side of a roof vent up to 3" in diameter.
- \* Ensure the collectors will have at least 6 hours of direct sun exposure.

### INSTALLATION

**NOTE:** Below instructions are for mounting purposes only. For full collector installation, please see the appropriate system layout provided in this manual.

1. Once positioning is established, locate the manufactured slots in the collector (5 slots in a 20' collector).
2. Place the bracket in place and pre-drill a 1/8" pilot hole for the screw.

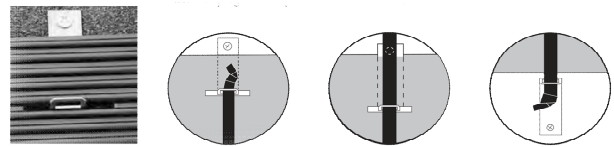
3. Insert the screw using a phillips head screwdriver to hold the bracket in place (as shown).

4. Install a bracket on the bottom side of the panel (as shown), ensuring that the bottom is in line with the top bracket.

**NOTE:** (15) brackets are provided with each kit, which will support up to (2) 2' x 20' collectors. (10) brackets are used for the top end of each 2' panel and (5) are used for the bottom of the second 2' collector.

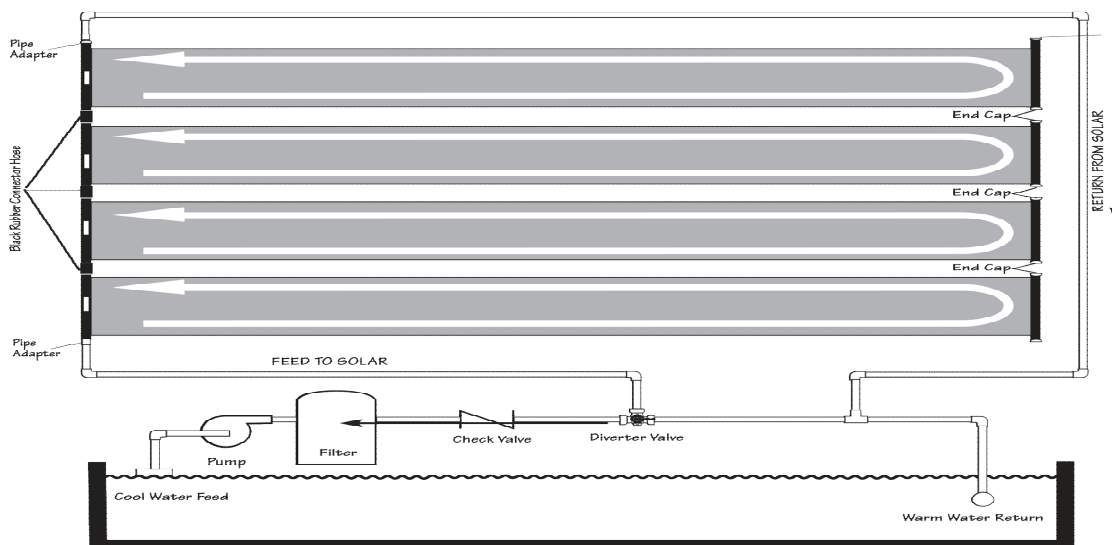
5. Once all brackets are installed, use the provided strapping to hold the collectors in place. Tie a knot in the tip bracket and feed the strap through the middle bracket before tying the strap bottom bracket.

(as shown)



## HARD PLUMB SYSTEM LAYOUT

**Note: The SM050004 KIT (not included) is required for the following installation.  
See page 7 for available kit options**



## WINTERIZATION

**YOUR SOLAR SYSTEM MUST BE DRAINED FOR WINTERIZATION! FREEZE DAMAGE IS NOT COVERED UNDER THE MANUFACTURER'S LIMITED 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 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. Sun2Solar 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. Using a sharp utility knife, very carefully cut away approximately 1" (2.54 cm) of the tube at the both headers. Drive #10 sheet metal screw, preferably stainless, into the hole in the header. The screw must be between ½" (1.27 cm) and ¾" (1.9 cm) long. **DO NOT OVER-TIGHTEN!** 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.

### **AVAILABLE KITS OPTIONS**

<b>SM050004 INGROUND UNIVERSAL SYSTEM KIT</b>	
<b>KIT COMPONENTS</b>	<b>QTY</b>
<b>1.5" Diverter Valve</b>	<b>1</b>
<b>3.75" Rubber Hose Connector</b>	<b>1</b>
<b>Pipe Adaptor</b>	<b>2</b>
<b>End Cap</b>	<b>1</b>
<b>Vacuum Relief Valve</b>	<b>1</b>
<b>Spring Check Valve</b>	<b>1</b>
<b>1.5" Stainless Steel Clamps</b>	<b>3</b>
*Used for hard plumb installation * Will support up to (8) 2 x 20 systems or (4) 4 x 20	
<b>803039 ABOVEGROUND MANUAL DIVERTER VALVE KIT</b>	
<b>KIT COMPONENTS</b>	
<b>1.5" Ball Valve</b>	<b>1</b>
<b>1.5" PVC Tees</b>	<b>2</b>
<b>Flex Hose Adaptors</b>	<b>4</b>
*Used for flex hose installations* * Will support 2 x 20 and 4 x 20*	
<b>803030 MOUNTING KIT</b>	
<b>KIT COMPONENTS</b>	
<b>6' Web Strapping</b>	<b>5</b>
<b>Stainless Steel Mounting Brackets</b>	<b>15</b>
<b>#14 Stainless Steel Screws</b>	<b>15</b>
*Used for flex hose installations* * Will support 2 x 20 and 4 x 20*	
<b>SM050006 HIGH WIND ADD-ON MOUNTING KIT</b>	
<b>Kit Components</b>	<b>QTY</b>
<b>6' Web Strapping</b>	<b>4</b>
<b>Stainless Steel Mounting Brackets</b>	<b>4</b>
<b>#14 Stainless Steel Screws</b>	<b>4</b>
**Use in conjunction with 803030 in areas of excessive wind **will support (1) 2' x 20" collector**	

## **TROUBLESHOOTING**

<b>PROBLEMS</b>	<b>POSSIBILITIES / SOLUTIONS</b>
<b>Sun2Solar™ Heater does not appear to be heating the pool.</b>	*Make sure that water is flowing through Sun2Solar™ Heater by checking the flow at the pool return. *Note the weather- has it been cloudy or raining? *Use your pool cover at night to reduce heat loss. *Refer to our order guide- pool size may require additional collectors.
<b>Bubbles continue to appear from the pool water inlet during operation.</b>	*Check the connections for leaks *Check the flow rate *Check the tubing for leaks or clogging.
<b>Sun2Solar™ Heater leaks.</b>	*Make sure connectors and hose clamps are tight and not defective.