**WARNING!**

For safety, please read through this manual thoroughly before installation in order to avoid risk of fire, property damage or personal injury.

**SAFETY PRECAUTIONS**

- Use your SunMaxx Solar Hot Water System as recommended and described in this manual. Use other than described may increase the risk of fire, property damage and personal injury.
- SunMaxx Solar Hot Water System must be installed in accordance with the Installation Manual and the Technical Manual before operation.
- Do not store any flammable materials in the vicinity of your SunMaxx Solar Hot Water System (dry leaves, branches, gasoline and other combustible materials).
- Wear protective gloves and safety glasses during installation.
- Use caution while handling the evacuated tubes; the metal condensor may be EXTREMELY HOT.
- Keep your SunMaxx Solar Hot Water System components away from children and pets.

**BEFORE YOU START**

- The installation of your SunMaxx Solar Hot Water System requires the work of two able adults with the ability to lift 50 lbs. each
- It is best to install your SunMaxx Solar Hot Water System on a cool cloudy day.
- Store the vacuum tubes in a shaded place until installation.

**WHAT YOU NEED**

- ½” Ratchet
- Adjustable wrench
- Liquid soap or other non-flammable lubricant

If you require additional assistance during installation, please contact your local SunMaxx dealer or contact Silicon Solar, Inc. directly.
COMPONENTS

Part A: Rear Left Leg (1)

Part B: Rear Right Leg (1)

Part C-1: Right Middle Leg (1)

Part C-2: Left Middle Leg (1)

Part D: Front Leg (40G - 3 / 80G - 4)

Part E: Cross Brace (4)
  Shorter than H / Longer than F, G

Part F: Side Brace (40G - 3 / 80G - 4)
  Shorter than H, E / Longer than G

Part A: Assistant (40G - 3 / 80G - 4)
  Shortest of E, F, G, H
Part H: Level Bar (40G - 3 / 80G - 4)
Longest of E, F, G, H

Part I: Mounting Feet (40G - 6 / 80G - 8)

Part J-1: Left Tank Brace (2)

Part J-2: Right Tank Brace (40G - 1 / 80G - 2)

Part K: Bottom Rack (1)

Part L: Rack Insert (40G - 20 / 80G - 30)

Part M: Reflector Panel (40G - 6 / 80G - 9)

Part N: Dust Ring Gasket (40G - 20 / 80G - 30)
Before beginning installation, spread out all collector components and arrange by size - this will accelerate the installation process. Take note that some components are mirrors of others, and that the system will be most structurally sound when the correct components are used at each point.

Unless otherwise instructed in this guide, use the small bolts and nuts.
ASSEMBLY INSTRUCTIONS

These instructions are valid for the SunMaxx-TS20 and SunMaxx-TS30 model of Thermosyphon Solar Hot Water Kits.

1. RIGHT LEG ASSEMBLY
   a) Lay out the parts as shown below
   b) Using small bolts, attach J-2 (Right Tank Brace) to D (Front Leg)
      - Make sure the connect to the inside face of the Brace as shown below
      - The flat side of J-2 (Right Tank Brace) will be outside edge of the system
   c) Attach B (Rear Right Leg) J-2 (Right Tank Brace)
   
   d) Attach G (Assistant) between the top hole in D (Front Leg) and the first available hole in B (Rear Right Leg) as shown
   
   e) Attach F (Side Brace) to the third hole from top of D (Front Leg) and the next available hole in B (Rear Right Leg)
   f) Attach H (Level Bar) to the second hole from the bottom of D (Front Leg) and the next available hole in B (Rear Right Leg)
   g) Attach I (Mounting Foot) to the bottom hole of B (Rear Right Leg) as shown at right
      - The flat part of I (Mounting Foot) will be on the ground keeping the system level when installation is done
   h) Attach I (Mounting Foot) to the bottom hole of D (Front Leg)
2. LEFT LEG ASSEMBLY
   a) Using J-1 (Left Tank Brace) and A (Rear Left Leg), repeat process in order to create the left side of the frame. When finished, the Left Leg Assembly should look like this.

3. MID-LEFT LEG ASSEMBLY
   a) Mid-Left Leg Assembly will be the same as the assembly of the Right Leg, EXCEPT that B (Right Rear Leg) will be replaced with C-2 (Left Middle Leg). When finished, the Mid-Left Leg Assembly should look like this.

5. MID-RIGHT LEG ASSEMBLY
   a) Using J-1 (Left Tank Brace) and C-1 (Right Middle Leg) - repeat step 3
      - Mid-Right Leg Assembly will be a mirror image of Mid-Left Leg Assembly
      - The finished assembly should look like this.
5. CONNECTING ALL 4 LEG ASSEMBLIES
   a) Align the holes of the M (Reflector Panel) with the 2nd and 3rd holes of D (Front Leg). Insert a small bolt and tighten
   b) Continue inserting Reflector Plates between leg assemblies. Repeat until the system looks like this diagram. DO NOT install the top row of Reflector Plates now

5. INSTALLING THE BACK SUPPORTS
   a) Connect each pair of leg assemblies with E (Cross Brace) as shown in this image
   b) Affix regions 1 and 3 to the legs using small bolts
   c) Connect the cross braces at region 2 with large bolts
7. INSTALLING MAIN TANK  
   a) Secure the assembly to its final install location. After installing the tanks, the system can not be moved again without dismantling.  
   b) Attach O (Main Tank) to the top of the assembly. There are bolts already attached to the tank. Remove the plastic bolt protectors and secure the bolts to the assembly by attaching to the Tank Braces as shown.

7. INSTALLING EVACUATED TUBES  
   a) Place Part N (Dust Ring Gasket) six inches from the flat end of Q (Evacuated Tube).  
   b) Insert Q (Evacuated Tube) into O (Main Tank).  
   c) Repeat for all Evacuated Tubes.  
   d) Place all of Parts L (Rack Insert) into K (Bottom Rack).  
   e) Insert Q (Evacuated Tubes) into K (Bottom Rack) and affix to the structure.
7. COMPLETING INSTALLATION
   a) Attach the top row of Reflector Panels.
   b) Attach the Expansion Tank Support over the bolt on the main tank as shown in the image.
   c) Screw P (Fill Control/Expansion Tank) to O (Main Tank).

ASSEMBLY COMPLETED
Once you have completed assembly, your finished SunMaxx Thermosyphon Solar Kit should look like the images below.

TYPICAL PLUMBING INSTALLATION
Use the following instructions and parts list to complete the plumbing installation of your SunMaxx Thermosyphon Solar Hot Water Kit.

1. TOOLS & HARDWARE NEEDED FOR INSTALLATION (at the collector)
   (2) ½" x ¾" copper female adapters
   (2) ½" copper female adapter
   (1) ½" copper nipple
   (1) ½" copper cap
   (1) ¾" PEX coupling (male)
   (1) ¾" PEX valve
   (1) ½" female adapter
   (1) ½" ball valve
   (3) ½" copper to PEX adapter
   (12) ½" x 2" galvanized lag bolts (2 per leg)
   (1) Roll of Teflon Tape
You will also need a Drill, Caulk Gun, PEX Crimp Tool, PEX Crimps, Socket Set, Adjustable Wrench, Pipe Cutter, Blow Torch, Solder, Flux and an Abrasive Pad for cleaning the copper.

2. TOOLS & HARDWARE NEEDED FOR INSTALLATION (at the hot water tank)
   (1) $\frac{1}{2}''$ Tee
   (1) $\frac{1}{2}''$ x $\frac{3}{4}''$ Reducer
   (1) $\frac{3}{4}''$ x $\frac{3}{4}''$ x 1'' Brass Fitting for Temp & Pressure Sensor
   (2) $\frac{3}{4}''$ PEX Adapter (male)
   (1) $\frac{3}{4}''$ Boiler Temp & Pressure Sensor
   (1) $\frac{3}{4}''$ Tee
   (1) $\frac{3}{4}''$ PEX Ball Valve
   (1) $\frac{1}{2}''$ Brass Ball Valve (sweat type)

3. MOUNTING AND INSTALLATION INSTRUCTIONS (collector)
   a) Assemble the frame on the ground using the instructions at the beginning of this manual
   b) Raise and mount the solar collector to the roof using the Galvanized Lag Bolts
   c) Attach the Main Tank
   d) Attach 1$\frac{1}{2}''$ x 3$\frac{3}{4}''$ female adapter to the HOT OUTLET and the COLD OUTLET (wrap the threads with Teflon Tape).
   e) Attach a short length of Copper Pipe and a Copper to PEX Adapter
   f) Attach the PEX using the PEX Crimps and PEX Crimp Tool, and run lines to the existing Hot Water Tank
   g) Attach the 1$\frac{1}{2}''$ Female Adapter to the top nipple wrapping the threads with the Teflon Tape. Solder a small piece of 1$\frac{1}{2}''$ Copper Pipe and the 1$\frac{1}{2}''$ Copper Cap
   h) Attach the 2nd Female Adapter to the lower nipple with a small section of Copper Pipe and the 3rd Copper to PEX Adapter. This will now act as the System Charge Point.
   i) Attach PEX to the lower inlet using the PEX Crimps and Crimp Tool. Cut the line and attach the Ball Valve.

4. INSTALLATION INSTRUCTIONS (hot water tank)
   a) Cut Main Water Supply
   b) Cut into Cold Water Feed to Hot Water Storage Tank and solder in the Copper Tee
   c) Solder in Copper to PEX Adapter and attach line from bottom nipple of the Collector using PEX Crimps and Crimp Tool
   
   d) Cut PEX line and install PEX Ball Valve using the PEX Crimps and Crimp Tool
   e) Cut into Cold Inlet to Hot Water and solder in the Copper Tee
   f) Cut again and install the Brass Ball Valve
   g) Solder on Small Copper Nipple to the Tee going into the Cold Inlet
If you have any questions about your SunMaxx Solar Collector, please contact your SunMaxx Dealer or Installer today.