EZ Roof Mount K10068 with “L” foot

ASPHALT SHINGLE ROOF INSTALLATION INSTRUCTIONS

Please Read Carefully Before Installing

K10068 is tested and listed by IAPMO to standards EC002-2011 and UL-441-96 Rain Test

File 0248

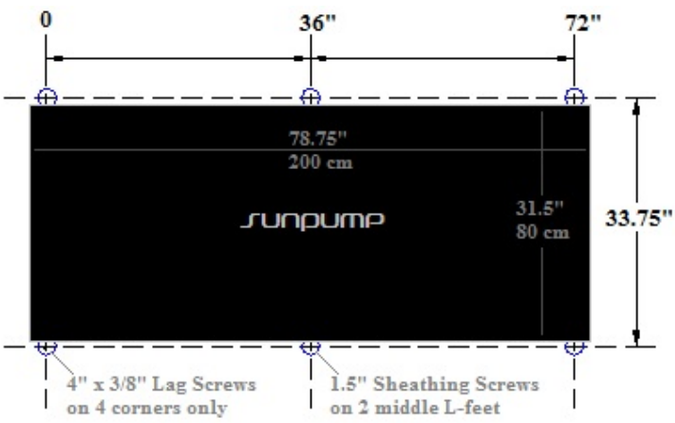
WARNING NOTICES:

1. Installer is responsible for use and application **of Personal Safety Equipment** including but not limited to: fall protection, eye and hand protection, proper use of electrical cords, use of ladders, and electrical hazard protection.

2. **Torque values** are called out in this Instruction Manual and must be adhered to.

3. The use of **anti-seize compound** such as Permatex anti-seize lubricant is recommended for all threaded parts.

Contents:



Specifications:

The pullout performance of the EZ Roof Mount is entirely dependent upon the strength and correct mounting of the Lag Bolt in the roof joist. The pilot hole must not be oversized, the wood must be in serviceable condition, and the lag bolt must have at least 2 inches of thread in the joist timber.

Our tested specification for the K10068 EZ Roof Mount is:

The EZ Roof Mount system is ICC tested and has published values for **Allowable Design Loads** including a Safety Factor of 3: Uplift 340 lbs., and Lateral strength of 130 lbs.

Support (Dead load): 2500 lbs. as limited by the underlying roof structure.

Rain test: UL 441-96, pass

Torque Chart

Our Torque Specification for the installation of the mounting hardware is shown below. Specific torque values must be used:

1/4 Inch Flange Nuts, splices -7.5 ft. lbs.

3/8 Inch Flange Nuts, splices and L feet to rail. ----------15 ft. lbs.

5/16 by 4 in Lag Bolt----------25 ft. lbs.

1 inch Aluminum Hex Nut-----20 ft. lbs.

These instructions cover the installation of the EZ Roof Mount product line including the following:

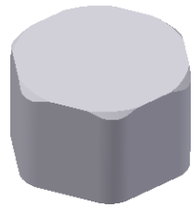
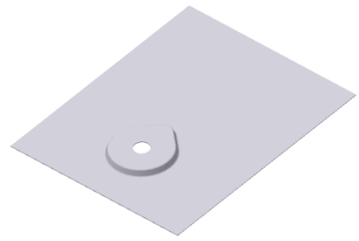
- **EZ Roof Mount with “L” foot, available in silver or black finish K10068-xxx**

- **EZ Roof Mount with standoff, 2-3-5-7 inch K10070-xxx (shown with “L” foot K10066xxx)**

- **SunPump “L” foot K10066-001 standard and K10096xxx tall.**

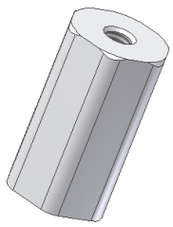
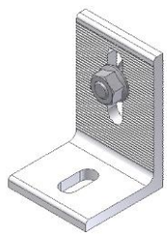
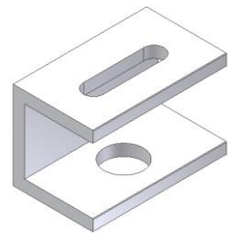
- **EZ Roof Mount Kit with “C” Bracket K12005-001.**

Part List for EZ Roof Mount Kit K10068-001 and K10068-XXX with “L” foot (AL rail not included in the kit):

 AL Shoe A20065 & Sealing Washer C10006-001	 5/16X4 Stainless Steel Lag Bolt B15015-002	 AL Hex Cap A20066-001 and – BK1
 AL L Foot Included with EZ Roof L Kit A20064-xxx	 AL Rail (Not Included)	 AL Flashing A20052-001 and -XXX

*Note that –xxx variants are Black, extra height, extra length, and other options.

Different Kit Numbers for Standoff Mount, “L” foot for Standoff, and “C” Bracket:

 Standoff- 2-3-5-7 in. Part of EZ Roof Kit K10070-xxx	 L Foot Kit K10066xxx (K10096xxx tall)	 C Bracket Part of EZ Roof Kit K12005-001

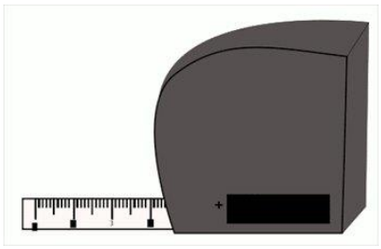
Tools and Supplies needed for Installation:

Electric Drill- *We strongly recommend against the use of an impact wrench except for the installation of the Lag Screw*.

Drill Bit for lag bolt pilot hole, 7/32 inch diameter.

3/8 Socket wrench with ½ and 9/16 socket for racking screws and 7/16 deep socket for mid and end clamps.

Torque Wrench, 3/8 drive, capable of 7.5 ft. lbs for top clamps, and 15 ft lbs for 3/8 rack hardware and 25 ft. lbs for lag screw.



Tape measure to layout roof installation.

Anti-seize compound (Permatex 80071 or equivalent).

Caulk gun and silicon sealant (GE 1200 construction sealant or equivalent).

Other items that can be useful:

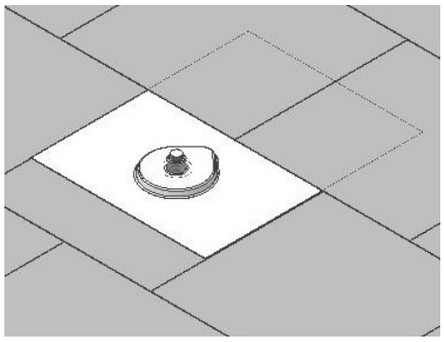
- Chalk or roofers marker to layout roof.
- Adaptor for 3/8 inch socket to drill chuck

Installation of the EZ Roof Mount Kit K10068-xxx

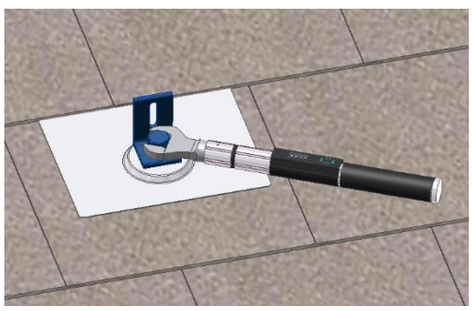
1. From the marked location, move down the roof 2.25 inches from the bottom of the shingle, and drill the pilot hole for the lag bolt with a 7/32 drill bit. For maximum strength, the hole should not be more than 3 inches in depth, and a drill stop may be used to insure this.

2. Clean sawdust, and fill hole with sealant. Install AL shoe to roof by using 5/16 lag bolt (Use GE 1200 Construction Silicon Sealant or Equivalent)

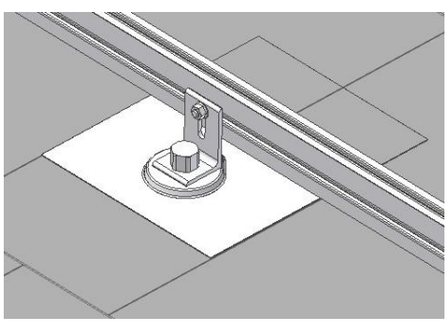
3. Make sure the washer on the threaded shank is positioned correctly. Use roofer bar to lift roof shingle, slide the flashing under shingle, and insert the flashing on threaded shank as shown.



4. Insert “L” foot to AL shoe on top of flashing. Place AL hex cap on shoe, and slightly tighten cap. **Hand tighten.**

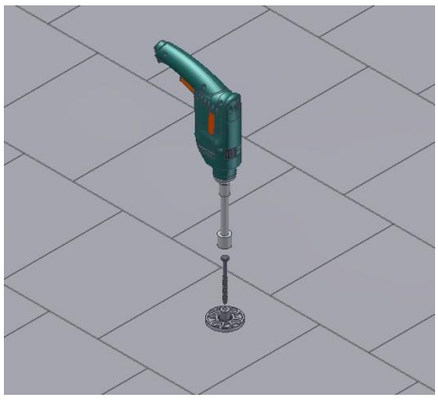


5. Install AL rail to “L” foot to the specific orientation. **Then, tighten 3/8 flange nut to 15 ft-lbs and 1 1/16 AL hex cap to 20 ft-lbs torque.**

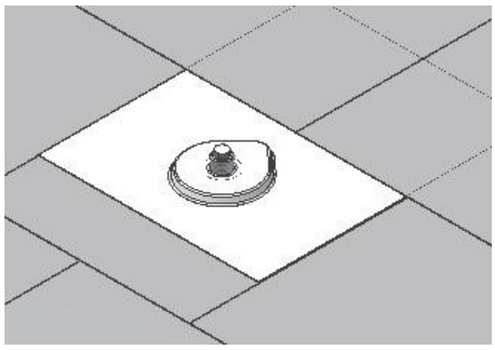


Installation of the EZ Roof Mounting Standoff Kit K10070-xxx

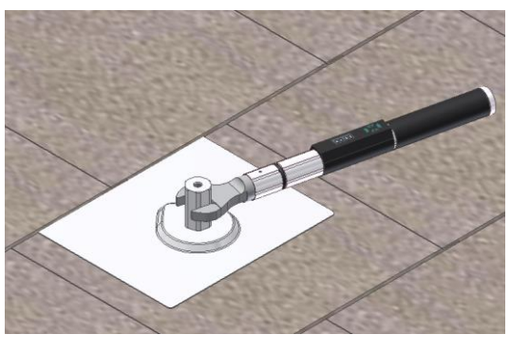
1. Mount the AL shoe using the same procedure as shown above.



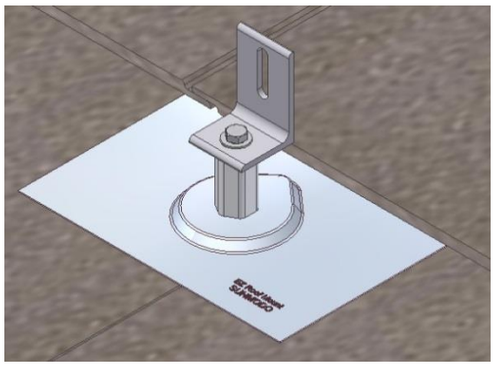
2. Make sure the sealing washer is positioned correctly on the threaded shank of the Aluminum Shoe Use roofer bar to lift roof shingle, slide the flashing under shingle, and insert the flashing over the threaded shank.



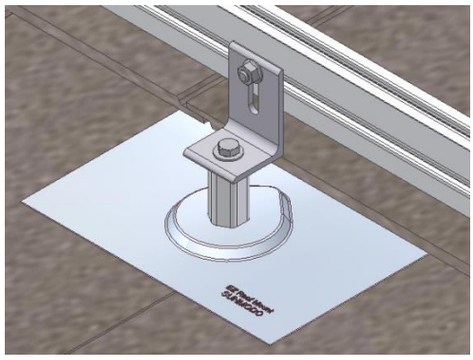
3. Place AL standoff on shoe threads and tighten by hand, then by wrench. **Use 15 ft-lbs nominal torque.**



4. Using the 3/8 inch flange bolt (supplied with AL “L” foot) attach to the top of the standoff.

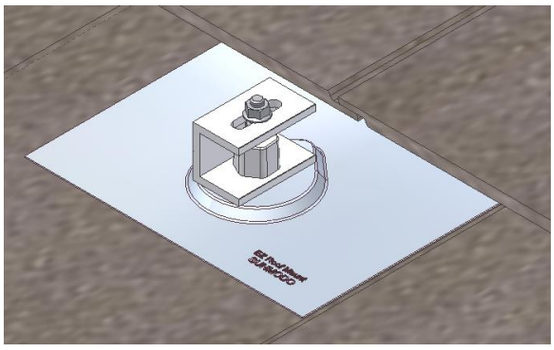


5. Then the Rail can be mounted to the “L” foot as shown below.



Installation of the EZ Roof Mount with C Bracket Kit K12005-001

1. Mount the “C” Bracket using steps 1-3 (See above) of the “L” EZ Roof Mount Kit K10068-xxx.
.
2. Mount the “C” bracket instead of an “L” foot, using the Hex Nut. The “C” bracket can be used to mount a variety of rails and other rooftop equipment.



10 Year Product Warranty and 5 Year Finish Warranty:

Terms and Conditions

SunPump warrants the original Purchaser that each Mounting Structure to be free from defects in materials and workmanship for a period of 10 years except for the finish, which shall be free from visible peeling, or cracking under normal atmospheric conditions for a period of 5 years starting from 1) the date of installation at the original site or 2) 30 days after the original purchase. The Finish Warranty does not apply to any foreign residue deposited on the finish. The Finish Warranty Is void if the practices specified by AAMA 608& 610-02-"Cleaning and Maintenance for Architecturally Finish Aluminum" (www.aamanet.org) are not followed by Purchaser. The limited warranty is void if the products are not installed properly in accordance with SunPump's Written Installation instructions, or is not used for the purpose for which it is designed, or the product has been modified, repaired, or reworked not authorized by SunPump.

SunPump Limited Warranty

The Warranty does not cover the product that is damaged resulting from shipping, storage, and misuse or abuse during installation. The limited warranty covers the cost of parts to repair or replace the products to a proper working condition. Transportation and incidental costs associated with warranty items are not reimbursable SunPump Limited Warranty only covers its products and under no circumstances will be liable for indirect or consequential damages resulting from or related use by original purchaser of the product.

Address all inquiries to:

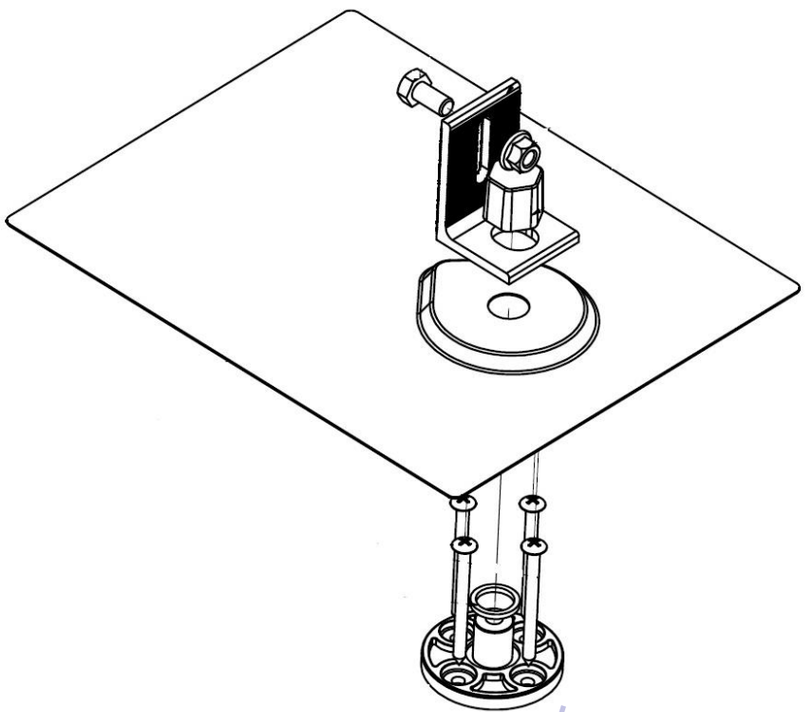
SunPump Solar Inc.
Ph: 866-855-2017

Web: www.SunPump.solar
Dealers: sunpump.freshdesk.com

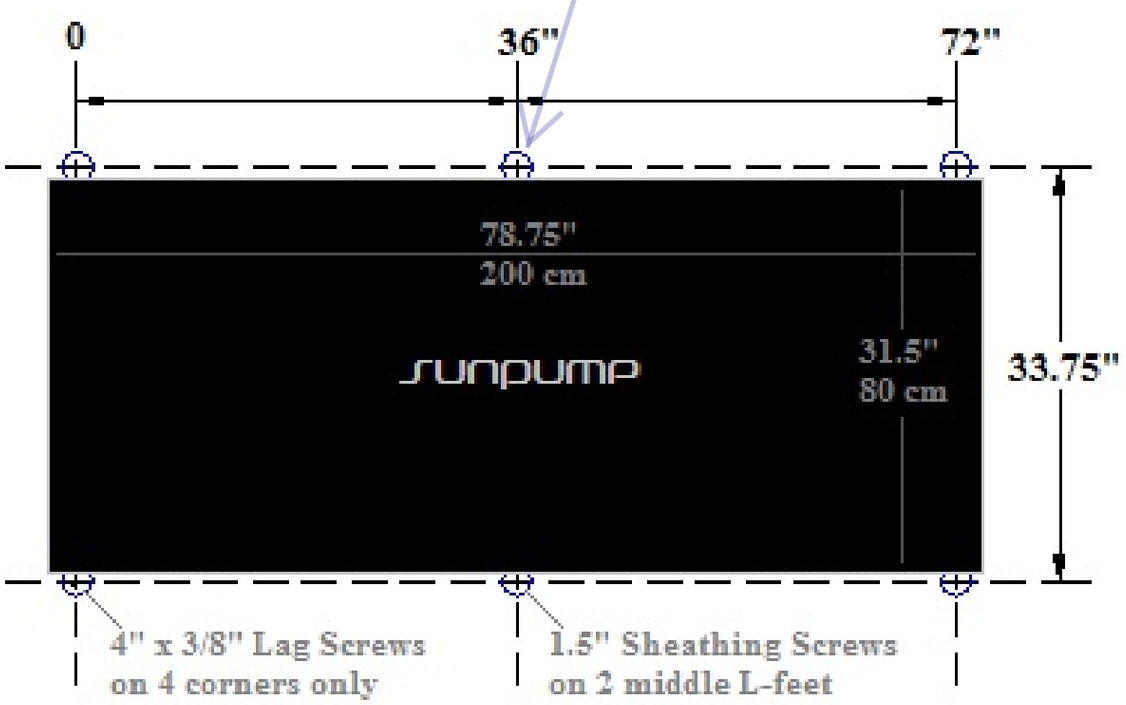
ADDENDUM "A"

EZ Roof Mount with “L” foot,

4 Hole Mounting



The middle L-foot on the SunPump black panel will not find a Truss at 36", instead 4 Hole Mounting is the alternative



Addendum Scope:

This addendum covers the mounting of the EZ Roof Mount with “L” foot using four (4) screws into the roof sheathing instead of a single lag screw into a 2 by 4 roof truss.

Our updated calculated specification for the 4 hole mounting is:
Pullout (uplift):250 lbs.
Lateral Deflection: 200 lbs.
Support (Dead load):750 lbs.
Rain test: UL 441-96, pass

<u>These instructions cover the installation of the EZ Roof mount product line using 4 screws including the following:</u>

- **EZ Roof mount with “L” foot, available in silver or black finish K10068-xxx**

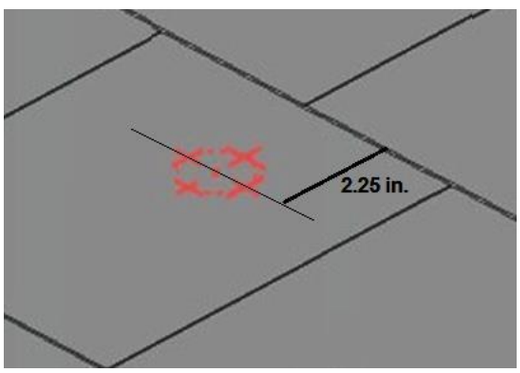
- **EZ Roof mount with standoff, 2-3-5-7 inch K10070-xxx (shown with “L” foot K10066xxx)**

- **SunModo “L” foot K10066xxx or K10096xxx tall “L” foot connection to standard and light rail.**

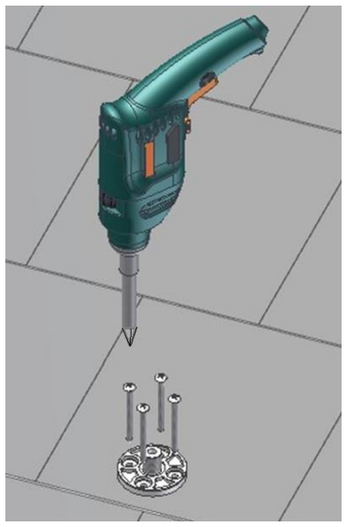
- **EZ Roof Mount with “C” Bracket.**

<u>4 hole Installation of the EZ Roof Mount Kit K10068-xxx</u>

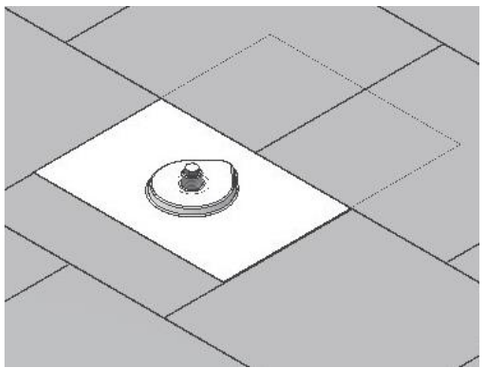
1. From the marked location, move down the roof 2.25 inches from the bottom of the shingle, and locate the EZ Roof Mount Shoe center. The EZ Roof mount shoe will be used as a template to locate the 4 screws



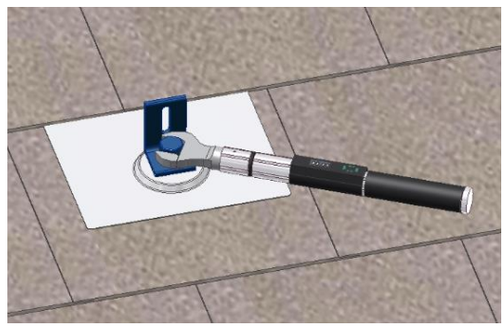
2. Mount the EZ Roof Mount Shoe to the roof through the shingles using the four (4) 3 inch by ¼ inch self-drilling screws. The screws will penetrate the roof sheathing and should protrude through the sheathing at least ½ inch. Maximum pullout strength requires that the threads extend below the sheathing.



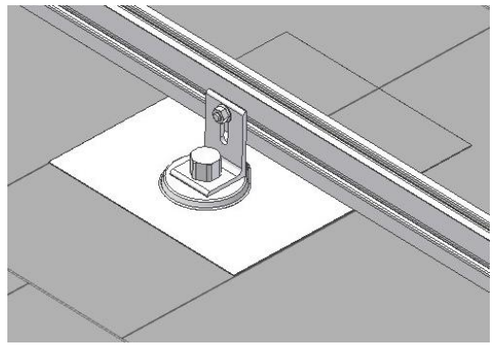
3. Make sure the waterproof washer on the threaded shank is positioned correctly. Use roofer bar to lift roof shingle, slide the flashing under shingle, and insert the flashing on threaded shank as shown.



4. Insert “L” foot to AL shoe on top of flashing. Place AL hex cap on shoe, and slightly tighten cap. **Hand tighten.**

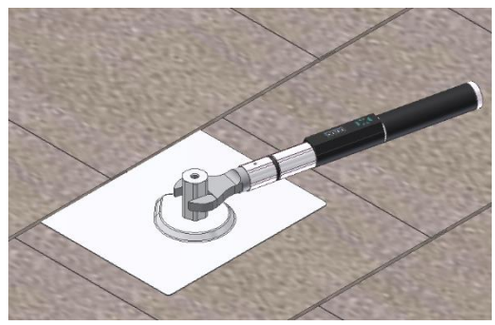


5. Install AL rail to “L” foot to the specific orientation. **Then, tighten 3/8 flange nut to 15 ft-lbs and 1 1/16 AL hex cap to 20 ft-lbs torque.**



Installation of the EZ Roof Mounting Standoff Kit K10070-xxx

1. Follow the procedure in this document to install the Roof shoe using 4 screws, than follow the procedure in the EZ Roof mount installation manual to complete installation of roof flashing and standoff.

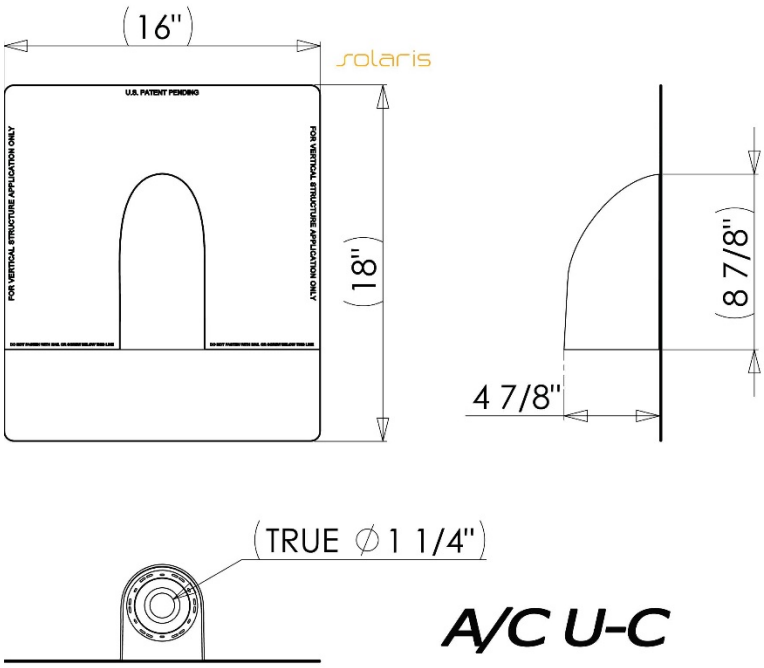


Insulated Line-Set Flashing

The AC-UC is a one piece UV-proof plastic composite that is ideal for Shingle Roofs.

The Scoop is under 5” and has a 1.25” EPDM seal molded in for the insulated line set pair. Look at the install above for the location at the center of 8 panels.

USA made. Comes in boxes of 4.



ROOFING — VENTING, DRAINS, AND PLUMBING COMPONENTS

PLUMBING FLASHINGS

5-IN-1 PLUMBING PIPE FLASHING

- The 5-in-1 replaces 5 separate plumbing flashings with one small display box, freeing up valuable shelf space
- Knock down display box contains the flashings, while still making the 5-in-1 flashing very visible
- Each 5-in-1 flashing comes with instructions
- Each 5-in-1 flashing is bar coded for automated check outs
- Rubber is able to maintain tension at contact with ABS pipe, unlike flashing made with PVC
- Flashing has a 4" base flange for extra protection

Meets CSA B272-93
Meets UPC PS64-98

Shingle Roof

Fits:

• 1-1/4" Plastic • 1-1/2" Copper • 1-1/2" Plastic • 2" Copper • 2" Plastic • 3" Plastic • 4" Plastic

STOCK #	MODEL	PCS/CTN	WEIGHT (LBS/CTN)	PRICE/EA
887700	5-in-1	25	15.55	$18.00

MASTER FLASH® PIPE FLASHINGS

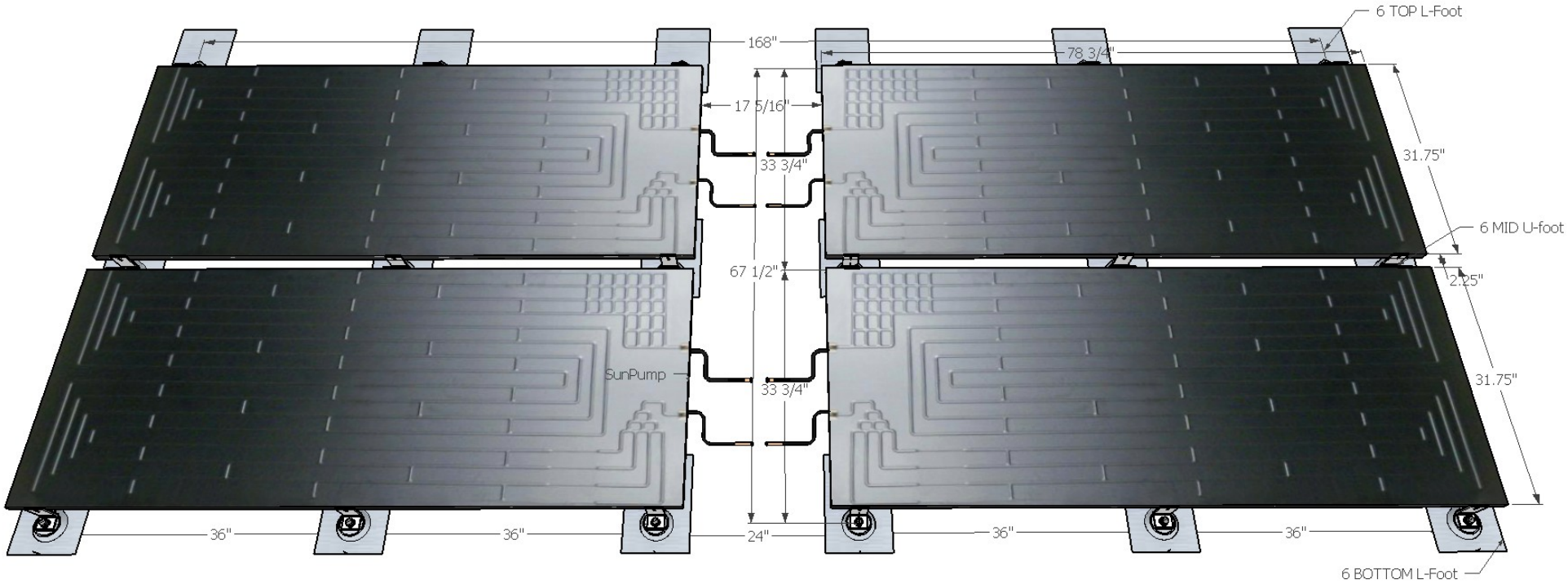
- Designed to seal on any panel configuration and roof pitch
- Made of EPDM with a flexible aluminum alloy base
- Covers all applications from -65°F to 275°F
- UPC listed

STOCK #	MODEL	MFG. #	DESCRIPTION	CTN QTY	PRICE
C680001	19110	No. 1	1/4" – 2" Pipe Flashing	15	P.O.A.
C680001	19111	No. 2	1-3/4" – 3-1/4" Pipe Flashing	15	P.O.A.
C680001	19112	No. 3	1/4" – 4" Pipe Flashing	15	P.O.A.
887706	19113	No. 4	3" – 6" Pipe Flashing	10	$36.00
C680001	19114	No. 5	4" – 7" Pipe Flashing	10	P.O.A.
887708	19115	No. 6	5" – 9" Pipe Flashing	10	49.00
C680001	19116	No. 7	6" – 11" Pipe Flashing	10	P.O.A.
887710	19117	No. 8	7" – 13" Pipe Flashing	5	90.00
C680001	19118	No. 9	10" – 18" Pipe Flashing	5	P.O.A.

Metal Roof

SunPump™ Solar Evaporators

4 Panel Group = Quad = 1 box of 2 rights + 2 lefts.



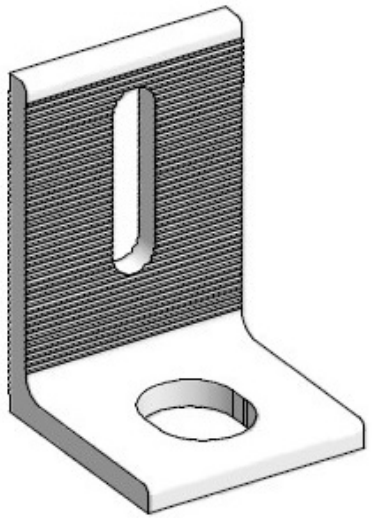
IMPORTANT! Leak test strictly using Nitrogen gas at **150-200 PSI** range. **Do not exceed maximum 300 PSI.** Keep moisture out of tubes using plugs.

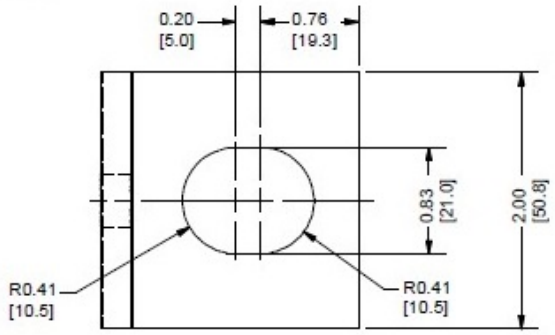
Panels must be installed in **Landscape orientation** (horizontal), with the ¼" liquid tube as the bottom, and 3/8" gas tube above. Equal flow is required.

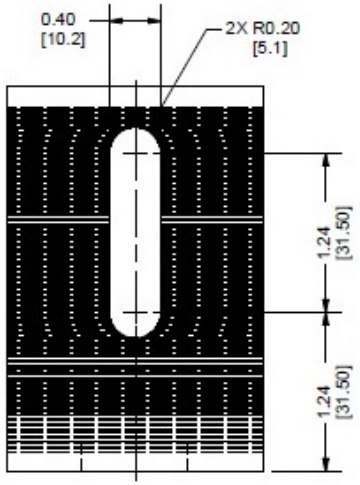
NOTES: Panels are 200 x 80 x 2.5 cm (78.75" x 31.75") must be installed horizontally, prefer copper pipes connected in the middle. Shown above for 24" rafters with 12 L-Foot lag screws at 0', 6', 8' and 14' into truss centers. Middle 6 L and U-Foot each depend on 4 S.S. screws into sheathing. Plan for the refrigeration tubing roof flashing to be in the middle – not under a panel. This example of 4 panels is called a Quad, is a typical grouping for 5-7 kW, and is used to form Arrays of 2 Quads for a 14 kW, or 1/2 for 3.5 kW.

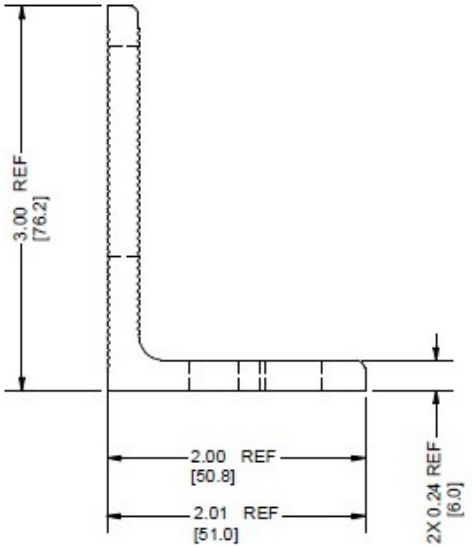
PROJECT: **SunPump Panel** Service Support: SunPump.freshdesk.com	TITLE: **SOLAR EVAPORATOR 4 PANEL BANK**	DWG. No. **1**	REV. **B**
DRAWN BY: B. GRAY © info@sunpump.solar	**SunPump** info@sunpump.solar	REVISION DATE: June 20, 2015	

SunPump™ L-Foot Bracket.







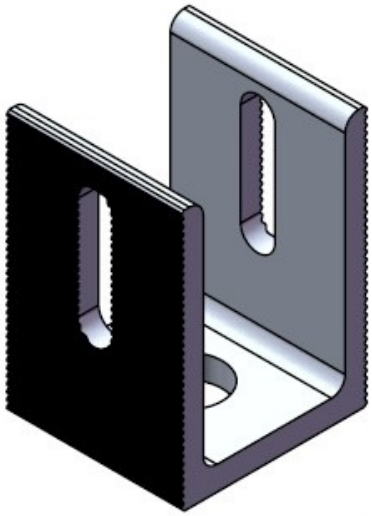


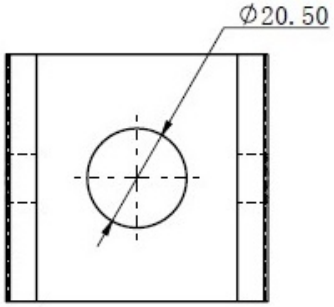
NOTES: Dimensions shown are inches and (millimeters).

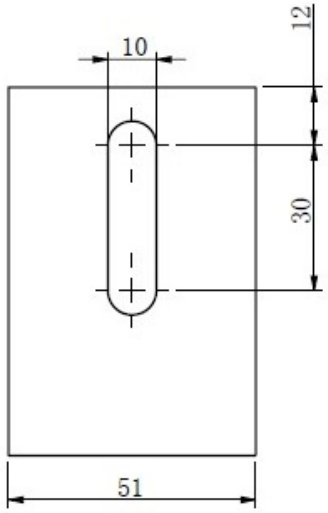
Recommend attaching L and U-foot brackets to thermal panels on the ground, then use them on the roof as a drilling template for accuracy and speed.

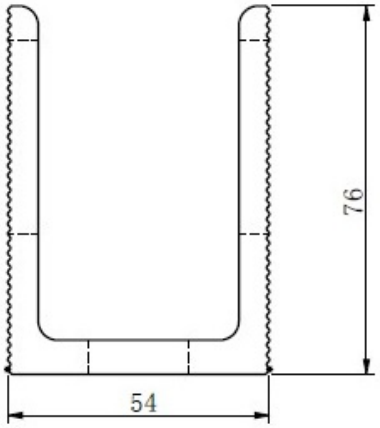
PROJECT: **SunPump Panel**	TITLE: **L-FOOT BRACKET**	DWG. No. **1**	REV. **A**
solarisgeothermal@gmail.com			
DRAWN BY: B. GRAY ©	**Sunpump**	REVISION DATE: April 23, 2015	

SunPump™ U-Foot Bracket.









NOTES: Dimensions shown are inches and (millimeters).

Recommend attaching L and U-foot brackets to thermal panels on the ground, then use them on the roof as a drilling template for accuracy and speed.

PROJECT: **SunPump Panel**	TITLE: **U-FOOT BRACKET**		DWG. No. **2**	REV. **A**
solarisgeothermal@gmail.com				
DRAWN BY: B. GRAY ©	**Sunpump**	REVISION DATE: April 23, 2015		