



**Eco-Smart, Inc.** (888) 329-2705  
**VORTEX™ Solar Pool Heaters**

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<b>Quick System Sizing Chart</b>		
<b>Pool Size</b>	<b>Panel Options</b>	<b>Roof Area Required*</b>
12' x 24'	3 - 4' x 12'	12.5' x 13.75'
	4 - 4' x 10'	10.5' x 18'
	5 - 4' x 8'	8.5' x 22.25'
14' x 28'	4 - 4' x 12'	12.5' x 18'
	5 - 4' x 10'	10.5' x 22.25'
	6 - 4' x 8'	8.5' x 26.5'
15' x 30'	5 - 4' x 12'	12.5' x 22.25'
	6 - 4' x 10'	10.5' x 26.5'
	7 - 4' x 8'	8.5' x 30.75'
16' x 32'	6 - 4' x 12'	12.5' x 26.5'
	7 - 4' x 10'	10.5' x 30.75'
	8 - 4' x 8'	8.5' x 34'
18' x 36'	7 - 4' x 12'	12.5' x 30.75'
	8 - 4' x 10'	10.5' x 34'
	10 - 4' x 8'	8.5' x 43.5'
20' x 40'	8 - 4' x 12'	12.5' x 34'
	10 - 4' x 10'	10.5' x 43.5'
	12 - 4' x 8'	8.5' x 52'
	9 - 4' x 12'	12.5' x 39.25'
	10 - 4' x 12'	12.5' x 43.5'

**Quick Sizes** will heat your pool up to ten degrees above an unheated pool temperature during standard swimming season based on ideal conditions.

**Use the Manual System Sizing Worksheet if:**

- you want to heat your pool higher than 10 degrees above unheated pool temperatures
- you want to extend your swimming season in cooler climates
- if your pool has shading, high winds, or you do not use a Pool Blanket
- if the solar panels will be facing east, west or flat instead of south

\* Panels are installed in a horizontal row. The panels can be split to circumvent obstacles on the roof or to turn the corner onto another roof. Panels can also be installed in multiple rows above each other on the same roof. Different size panels can be combined or custom sizes used to accommodate various roof shapes. See Vortex Manual for kit options.

## Vortex™ Manual System Sizing

### A. Determine the pool surface area in Square Feet:

Overall Length \_\_\_\_\_ Ft  
 X  
 Overall Width \_\_\_\_\_ Ft  
 X  
 Shape Multiplier \_\_\_\_\_  
 =  
 (A). \_\_\_\_\_ SqFt

Shape	Multiplier
Rectangle	1.00
Kidney/Freeform	0.85
Oval	0.90
Round	0.79

(Alternate method: Pool Gallons / 7.48 / Average Depth = Pool SqFt)

### B. Where will the panels be installed?

Check the orientation of the roof area with a compass. Select an Orientation Multiplier on the right. Solar panels can face up to 30° East or West of True South for optimum efficiency. Panels can not face in a northerly direction.

(B). \_\_\_\_\_

Orientation	Multiplier
Facing South	1.00
Facing East or West	1.25
Flat	1.10

See the Vortex Manual for precautions on flat roof installation.

### C. Is the pool shaded?

Determine the percentage of shade on the entire pool during the Solar Day (9 am - 5 pm), refer to Table 3 and select a Shade Multiplier. If only a portion of the pool is shaded for part of the solar day, then a Shade Multiplier should be extrapolated from the table (i.e. 50% of the pool shaded for 50% (4 hours) of the solar day equals 25% or a multiplier of 1.10)

(C). \_\_\_\_\_

Shade	Multiplier
No Shade	1.00
25% Shade	1.10
50% Shade	1.25
75% Shade	1.50
100% Shade	1.75

Indoor pools should use 100% shade multiplier.

### D. Does the pool have a screen enclosure?

If the pool has a screen enclosure, use a Screen Multiplier of 1.25  
 If the pool does not have a screen enclosure, use a Multiplier of 1.0

(D). \_\_\_\_\_

**E. Determine the Sizing Factor** for your Region and Pool Season in months. For areas other than Florida, refer to the Solar Insolation Map for the correct Sizing Factor.

(E). \_\_\_\_\_

Region	Pool Season (Months)	
	9 - 10	11 - 12
North Florida	0.64	0.80
Central Florida	0.56	0.68
South Florida	0.48	0.56

**F. Multiply** (A) X (B) X (C) X (D) X (E) to get the required square footage of solar panels.

(F). \_\_\_\_\_

**Measure the area** where the panels will be installed to determine which size panel will fit best; 4' x 8', 4' x 10', or 4' x 12'.

### Finish

Sq. footage from above: (F) \_\_\_\_\_  
 Divide by 32 = \_\_\_\_\_ 4Ft X 8Ft Panels  
 Divide by 40 = \_\_\_\_\_ 4Ft X 10Ft Panels  
 Divide by 48 = \_\_\_\_\_ 4Ft X 12Ft Panels

Some roof configurations may require combining several sizes of panels to achieve the total square footage. See the Vortex Manual for details.