Thermosiphon Passive Solar Water Heating

Thermosiphon Passive Solar Water Heating Benefits:

- Reduces Water Heating Costs by over 90 Percent
- Can Lower Overall Electric Bills by 20 Percent or More
- Can Act as Stand Alone Water Heater – No Garage Storage Required
- No Moving Parts, Virtually Maintenance Free
- Creates Positive Cash Flow / Tax Free Return on Investment (10 to 20% annual)
- Acts as an Emergency Source of Hot Water
- Reduces Environmental Impact of Utility Power Generation
- Why Buy Oil from Overseas to Heat Water? Solar Water Heating is the Single Largest Step We Can Take Toward Energy Independence

System Description: Two 4' x 5' panels with an 80 gallon storage tank are installed on the roof, typically facing South. The panels contain food grade glycol, which, when heated by the sun, rises up to circulate through the ceramic lined water tank, heating the water. The system can act as a stand alone water heater, as the tank contains its own heating element, or the system can act as a non-electric pre-heater to a standard electric or gas water heater in the home. Savings in water heating cost exceed 90 percent in Florida, saving over 20 percent of the typical electric bill. This system does not freeze, and corrosive water will not damage the collector copper tubes, as only the glycol comes into contact with the copper.

Distributed by: Eco-$mart, Inc. 888-329-2705 ~ 941-377-9460 www.ecosmartinc.com

All Eco-$mart systems are approved by the nonprofit Florida House Institute for Sustainable Development

TECHNICAL SPECIFICATIONS

Systems	181 K	221 K	302 K	303 K	443 K	
Delivery (solar)	160	200	285	285	400	L
	43	53	76	76	107	USg
Delivery (aux)	135	175	230	230	320	L
	36	47	61	61	85	USg
Weight (full)	295	343	481	524	686	kg
	649	755	1058	1153	1509	lbs
Weight (empty)	111	119	173	213	235	kg
	244	262	381	469	517	lbs
Length	2.48	2.48	2.48	2.48	2.48	m
	97.6	97.6	97.6	97.6	97.6	ins
Height	0.51	0.51	0.51	0.51	0.51	m
	20.1	20.1	20.1	20.1	20.1	ins
Width	1.615	1.965	2.515	3.38	3.485	m
	63.6	77.4	99.0	133.1	137.2	ins
Working Pressure	1000	1000	1000	1000	1000	kPa
	145	145	145	145	145	psi
Test Pressure	2100	2100	2100	2100	2100	kPa
	304	304	304	304	304	psi
Tank type	180J	220J	300J	300J	440J	
Collector type	K	K	K	K	K	
No of collectors	1	1	2	3	3	

Tanks	180 K	220 K	300 K	440 K	
Capacity	180	220	300	440	L
	48	59	80	117	USg
Weight (full)	246	292	384	546	kg
	541	642	845	1201	lbs
Weight (empty)	66	72	84	106	kg
	145	158	185	233	lbs
Length	1.494	1.76	2.31	3.285	m
	58.8	69.3	90.9	129.3	ins
Height	0.51	0.51	0.51	0.51	m
	20.1	20.1	20.1	20.1	ins
Width	0.51	0.51	0.51	0.51	m
	20.1	20.1	20.1	20.1	ins
Cylinder material	Steel, 2.5 mm (0.10").				
Cylinder lining	Primaglaze: Ceramic Lining, 2 coats				
Insulation	Polyurethane: Pressure Injected, Zero CFC				
Case	Aluminium: Marine Grade, 0.4mm (0.15").				
End Caps	Polypropylene: Carbon Black, UV Stabilised				
Anode	Magnesium with Steel Core				

Visit our website at www.solahart.com.au

US Distribution by: Eco-$mart, Inc. 888-329-2705

YOUR LOCAL SOLAHART EXPERT IS:

Solahart World Corporate Headquarters,
112 Pilbara Street, Welshpool, Western Australia 6106.
Telephone: 08 9458 6211. Facsimile: 08 9351 8034.
International telephone: + 618 9458 6211.
International facsimile: + 618 9351 8034.
Email: solahart@solahart.com.au
Internet: www.solahart.com.au

Solahart Industries Pty Ltd
ABN 45 064 945 848

Solahart

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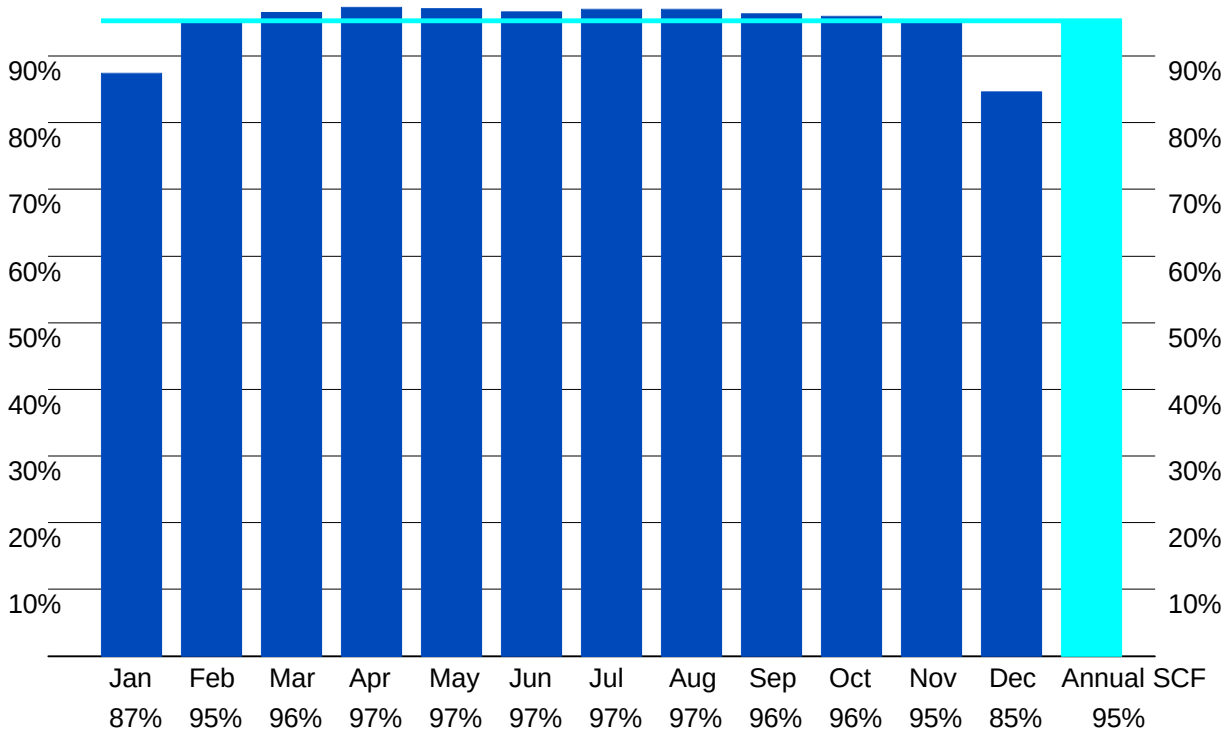
The Alternative SOL 5085

Eco-$mart, Inc., 888-329-2705, www.ecosmartinc.com

Energy Savings with Solahart 302J

Location.. Miami Latitude.. 28.8° N Inclination.. 20° Orientation .. South



Total energy from the sun.....3248 kWh/year under average conditions.***

Savings relative to a 150 litre electric water heater.**

Average use 71 US Gal./day at 120.2°F (26538.4 Btu/day)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Radiation	1110	1332	1649	1902	1902	1775	1839	1775	1554	1395	1173	1046	Btu/sqft.day
Ambient	67.3	68.5	71.8	75.2	78.6	81.3	82.6	82.8	81.9	78.3	73.6	69.1	°F
Cold Water	66.2	68.0	71.6	75.2	77.0	80.6	82.4	82.4	80.6	77.0	73.4	68.0	°F
Solar Input	8.48	9.24	9.26	9.15	9.03	8.89	8.92	8.92	8.86	8.93	9.03	8.21	kWh/day
Boost input	4.41	1.64	1.2	0.92	0.97	1.13	0.99	0.99	1.22	1.34	1.67	5.36	kWh/day
Electric HWS*	12.2	11.7	10.7	9.8	9.3	8.4	7.9	7.9	8.4	9.3	10.2	11.7	kWh/day
Energy saved	11.0	11.2	10.4	9.5	9.0	8.1	7.7	7.7	8.0	8.9	9.8	10.2	kWh/day
	115917	119073	110973	99727	95424	82551	80975	80977	82276	94335	99959	107877	Btu/day

Total Annual Savings on Energy Use vs. an Electric water heater.....3386 kWh/year

* 150 litre electric water heater container loss of 1.98 kWh/day.
** Estimated savings are calculated with hot water use distributed throughout the day.

2/1/2003

Solahart Industries Pty Ltd
A Southcorp Company.
ACN 064 945 848
Corporate Headquarters: 112 Pilbara Street, Welshpool, Western Australia 6106. Postal Address: P.O. Box 95, Welshpool, Western Australia 6986.

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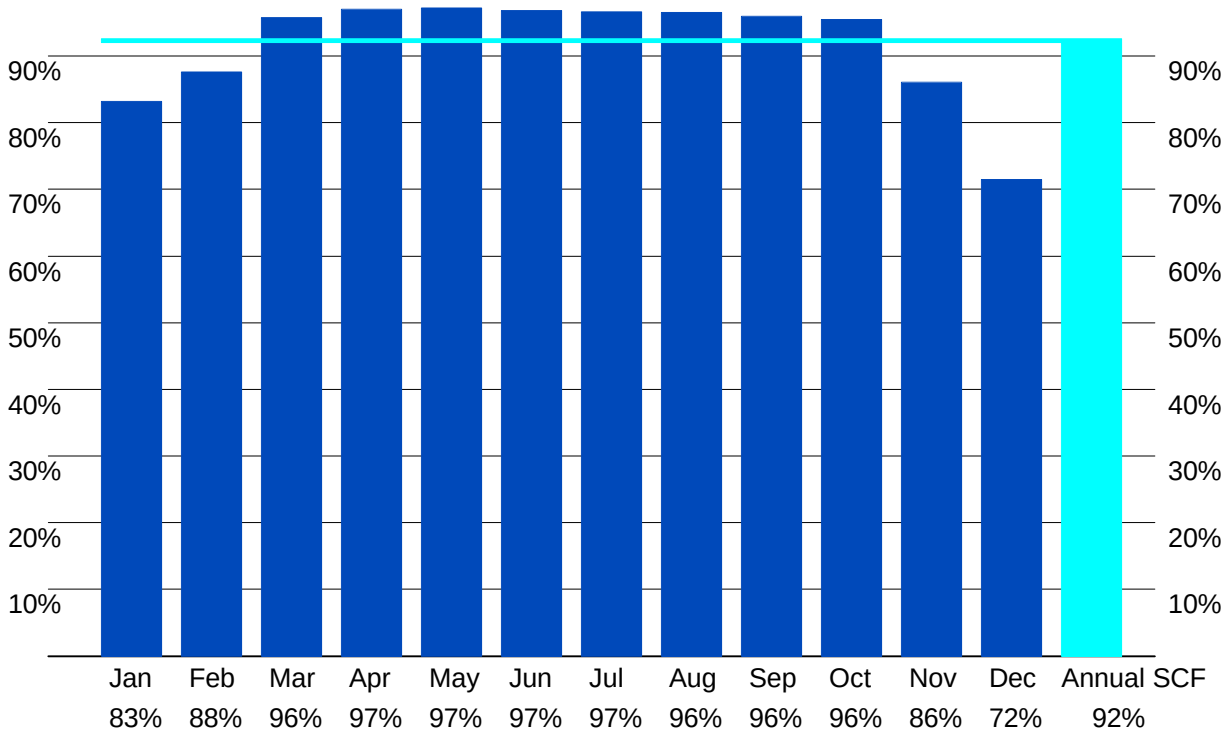
Energy Savings with Solahart 302J

Location.. Tampa Latitude.. 30.38° N Inclination.. 20° Orientation .. South



Total energy from the sun.....3353 kWh/year under average conditions.***

Savings relative to a 150 litre electric water heater.**

Average use 72 US Gal./day at 120.2°F (28434 Btu/day)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Radiation	1015	1268	1617	1966	2029	1934	1839	1744	1554	1395	1141	983	Btu/sqft.day
Ambient	78.1	61.5	66.4	71.2	77.2	81.0	82.0	82.0	81.0	74.8	67.6	62.2	°F
Cold Water	77.0	60.8	66.2	69.8	77.0	80.6	80.6	80.6	80.6	73.4	66.2	60.8	°F
Solar Input	8.24	9.2	9.87	9.8	9.62	9.49	9.37	9.36	9.41	9.55	8.87	7.51	kWh/day
Boost input	5.98	4.68	1.56	1.09	1.0	1.13	1.19	1.23	1.41	1.62	5.14	10.74	kWh/day
Electric HWS*	9.2	13.6	12.1	11.1	9.2	8.3	8.3	8.3	8.3	10.2	12.1	13.6	kWh/day
Energy saved	7.6	12.3	11.6	10.8	9.0	8.0	8.0	8.0	8.0	9.7	10.6	10.6	kWh/day
	80165	117045	123017	110502	94793	82208	84755	84652	81407	102684	88873	111794	Btu/day

Total Annual Savings on Energy Use vs. an Electric water heater.....3470 kWh/year

* 150 litre electric water heater container loss of 1.98 kWh/day.
** Estimated savings are calculated with hot water use distributed throughout the day.

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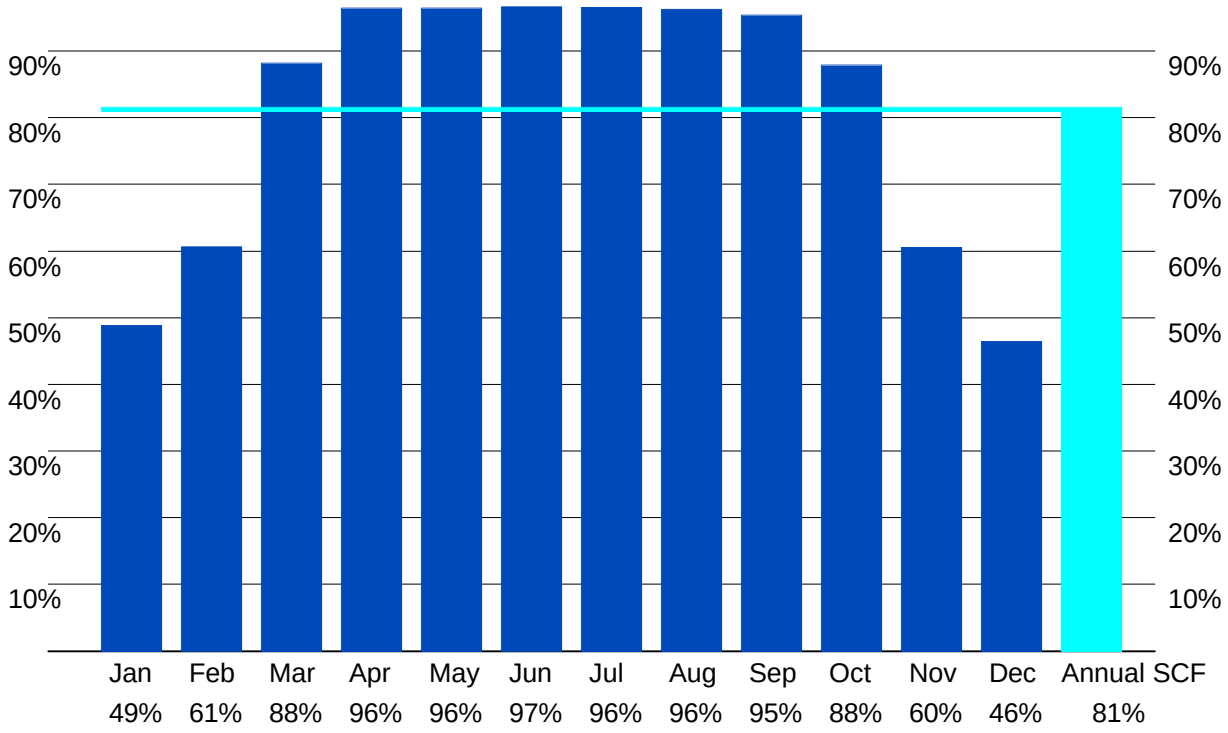
Energy Savings with Solahart 302K

Location.. Atlanta Latitude.. 33.5° N Inclination.. 20° Orientation .. South



Total energy from the sun.....3550 kWh/year under average conditions.***

Savings relative to a 150 litre electric water heater.**

Average use 69 US Gal./day at 120.2°F (34120.8 Btu/day)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Radiation	747	1010	1427	1966	1966	2029	1966	1807	1522	1300	919	761	Btu/sqft.day
Ambient	55.2	44.8	53.4	61.5	69.3	75.9	78.8	78.1	72.7	62.2	53.1	44.4	°F
Cold Water	53.6	44.6	51.8	60.8	68.0	75.2	78.8	77.0	71.6	60.8	51.8	42.8	°F
Solar Input	6.05	7.76	11.02	11.76	11.47	11.21	11.1	11.16	11.26	10.64	7.56	5.94	kWh/day
Boost input	22.84	18.12	5.29	1.58	1.54	1.42	1.45	1.58	1.95	5.29	17.74	24.68	kWh/day
Electric HWS*	13.9	16.1	14.3	12.1	10.4	8.8	8.0	8.4	9.6	12.1	14.3	16.6	kWh/day
Energy saved	7.5	11.1	12.8	11.7	10.0	8.4	7.6	8.0	9.1	10.7	9.4	9.7	kWh/day
	795569	1060086	1358330	1196038	1058854	961612	805893	843734	929186	1126959	960698	1030068	Btu/day

Total Annual Savings on Energy Use vs. an Electric water heater.....3527 kWh/year

* 150 litre electric water heater container loss of 1.98 kWh/day.
** Estimated savings are calculated with hot water use distributed throughout the day.

1/29/2003

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