

FAFCO

SUNSAVER™ SOLAR HEAT EXCHANGER

DESCRIPTION: The SunSaver™ Solar Collector is manufactured in Chico, California. The collector is a specially developed, highly stabilized polyolefin and is of parallel, circular channel design. It is unglazed, un-insulated, and designed for low temperature applications such as swimming pool heating, heat pumps, aquaculture, and hydroponics.

DIMENSIONS: Header Length = 50.875 in. (1.29 m)
Width (Panel body) = 47.5 in. (1.21 m)

<u>Overall Dimensions</u>	<u>Effective Area</u>
4 ft. X 8 ft. (1.22 X 2.44 m)	31.6 ft ² (2.94 m ²)
4 ft. X 10 ft. (1.22 X 3.05 m)	39.5 ft ² (3.67 m ²)
4 ft. X 12 ft. (1.22 X 3.66 m)	47.8 ft ² (4.40 m ²)

ROOF MOUNTING SPACE: Width = [Number of panels X 50.875 in. (129 cm)] + 24 in. (61 cm)
Length = Panel length + 24 in. (61 cm)

RACK SPACE: Width = [Number of panels X 50.875 in. (129 cm)] + 2 in. (5 cm)
Length = Panel length + 6 in. (15 cm)

FLOW: Maximum recommended flow = 8 gpm per panel
3.47 psi head loss (1,817 l/hr, 0.244 kg/cm²)
Minimum recommended flow = 3 gpm per panel
0.48 psi head loss (681 l/hr, 0.034 kg/cm²)
Recommended flow = 4 gpm per panel
0.87 psi head loss (908 l/hr, 0.061 kg/cm²)

PANELS PER BANK: 12 panels single end feed
(maximum) 17 panels diagonal feed

PRESSURE:	NORMAL OPERATING PRESSURE	MAXIMUM INTERMITTENT PRESSURE
80°F (27°C)	0 to 30 psi (0 - 2.11 kg/cm ²)	45 psi (3.16 kg/cm ²)
212°F (100°C)	0 to 5 psi (0 - 0.35 kg/cm ²)	5 psi (0.35 kg/cm ²)
70°F (21°C)	Measured burst pressure of panel body = Over 300 psi (21.1 kg/cm ²)	

TEMPERATURE: Normal operating temperature = 60°F to 90°F (16°C to 32°C)
Maximum continuous operating temperature = 212°F (100°C)
Maximum intermittent temperature (un-pressured) = 250°F (121°C)
Melt temperature = 338°F (170°C)

CHEMICAL RESISTANCE: Compatible with common collector fluids

CORROSION: Non-corrosive

FREEZING: The system should be drained before freezing conditions occur.

WEATHERABILITY: Weatherometer, accelerated outdoor exposure, and other extensive laboratory testing demonstrates long-term weatherability of SunSaver™ collectors (see warranty). Additionally, FAFCO's experience of 30+ years and over 1,000,000 collectors installed confirms that the proprietary stabilization and high mechanical strength results in negligible warranty over the **TWELVE-YEAR** warranty period.

WEIGHT:

Without Water:

4 ft. X 8 ft. 13.5 lbs (5.04 kg) or 0.42 lbs/ft² (2.05 kg/m²)
4 ft. X 10 ft. 15.9 lbs (5.93 kg) or 0.40 lbs/ft² (1.95 kg/m²)
4 ft. X 12 ft. 18.3 lbs (6.83 kg) or 0.38 lbs/ft² (1.86 kg/m²)

With Water:

4 ft. X 8 ft. 51.1 lbs (19.1 kg) or 1.60 lbs/ft² (7.81 kg/m²)
4 ft. X 10 ft. 59.8 lbs (22.3 kg) or 1.50 lbs/ft² (7.32 kg/m²)
4 ft. X 12 ft. 68.5 lbs (25.6 kg) or 1.43 lbs/ft² (6.98 kg/m²)

ABSORPTIVITY: 0.96

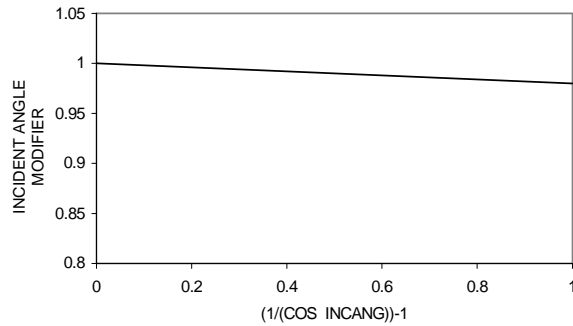
EMISSIVITY: 0.90

TIME CONSTANT: 64 seconds

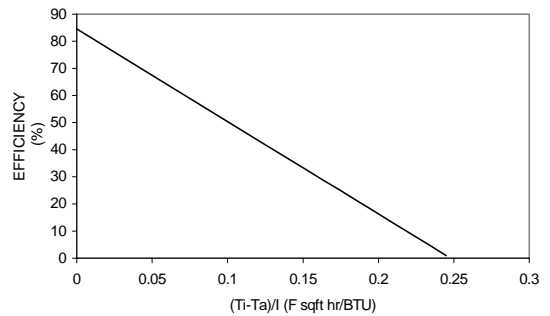
TESTED OUTPUT: 1,014 BTU/ft² (Florida Solar Energy Center)

PERFORMANCE CURVES:

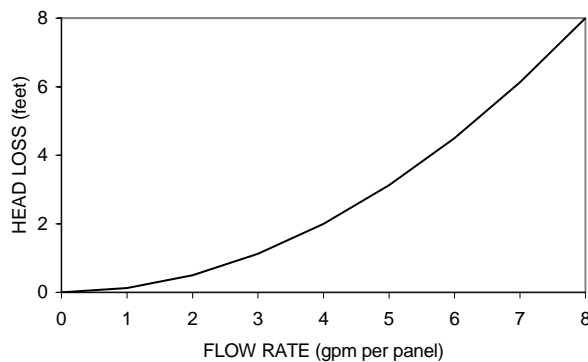
INCIDENT ANGLE CHARACTERISTICS



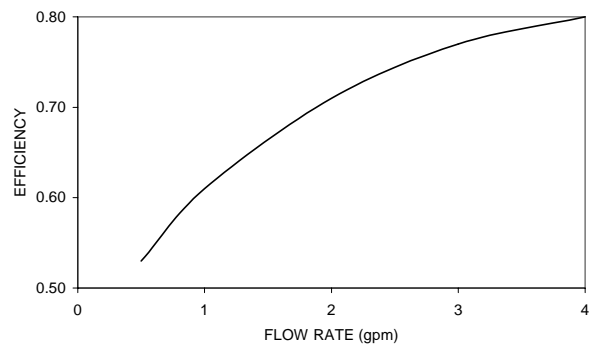
MEASURED EFFICIENCY
Average flow rate 4.9 gpm (1113 l/hr)
Average wind velocity 2.4 mph (3.9 km/hr)



PRESSURE vs. FLOW



EFFICIENCY vs. FLOW
(for typ. conditions)



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