

**CITY OF SACRAMENTO**  
1231 I Street, Sacramento, CA 95814

Permit No: **0106675**  
Insp Area: **4**

Site Address: **2751 PICKERING WY SAC**  
Parcel No: **274-0540-041**

Sub-Type: **RES**  
Housing (Y/N):

**CONTRACTOR**  
SWAN POOLS  
1810 FIELD AV  
STOCKTON CA 95203

**OWNER**  
PRICE  
2751 PICKERING WAY  
SACRAMENTO, CA 95833

**ARCHITECT**

**Nature of Work:** GUNITE POOL AND SPA W/ GAS AND SOLAR HEATER

**CONSTRUCTION LENDING AGENCY:** I hereby affirm under penalty of perjury that there is a construction lending agency for the performance of the work for which this permit is issued (Sec. 3097, Civ. C).

Lender's Name \_\_\_\_\_ Lender's Address \_\_\_\_\_

**LICENSED CONTRACTORS DECLARATION:** I hereby affirm under penalty of perjury that I am licensed under provisions of Chapter 9 (commencing with section 7000) of Division 3 of the Business and Professions Code and my license is in full force and effect.

License Class \_\_\_\_\_ License Number 63964 Date 6/14/01 Contractor Signature Swan Pools, Mary Thomson

**OWNER-BUILDER DECLARATION:** I hereby affirm under penalty of perjury that I am exempt from the contractors License Law for the following reason (Sec. 7031.5, Business and Professions Code: any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to its issuance, also requires the applicant for such permit to file a signed statement that he or she is licensed pursuant to the provisions of the Contractors License Law (Chapter 9 (commencing with Section 7000) of Division 8 of the Business and Professions Code) or that he or she is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than five hundred dollars (\$500.00).

I, as a owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 7044, Business and Professional Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or herself or through his/her own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he/she did not build or improve for the purpose of sale.)

I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractors License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractors License Law)

I am exempt under Sec \_\_\_\_\_ B & PC for this reason: \_\_\_\_\_

Date \_\_\_\_\_ Owner Signature \_\_\_\_\_

2001  
CITY OF SACRAMENTO  
JUN 14 2001

**IN ISSUING THIS BUILDING PERMIT,** the applicant represents, and the city relies on the representation of the applicant that the applicant has verified all measurements and locations shown on the application or accompanying drawings and that the improvement is not in violation of any law or private agreement relating to permissible or prohibited locations for such improvements. This building permit does not authorize any illegal location of any improvement or the violation of any private agreement relating to location of improvements.

I certify that I have read this application and state that all information is correct. I agree to comply with all city and county ordinances and state laws relating to building construction and hereby authorize representative(s) of this city to enter upon the abovementioned property for inspection purposes.

Date 6-14-01 Applicant/Agent Signature Swan Pools, Mary Thomson

**WORKER'S COMPENSATION DECLARATION:** I hereby affirm under penalty of perjury one of the following declarations:

I have and will maintain a certificate of consent to self-insure for workers' compensation as provided for by Section 3700 of the Labor Code, for the performance of work for which the permit is issued

NI I have and will maintain workers' compensation insurance, as required by Section 3700 of the Labor Code, for the performance of the work for which this permit is issued. My workers' compensation insurance carrier and policy number are:

Carrier STATE FUND Policy Number 1575333-01 Exp Date 02/01/2002

(This section need not be completed if the permit is for \$100 or less) I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the workers' compensation laws of California and agree that if I should become subject to the workers' compensation provisions of Section 3700 of the Labor Code, I shall forthwith comply with those provisions.

Date 6-14-01 Applicant Signature Swan Pools, Mary Thomson

**WARNING:** FAILURE TO SECURE WORKER'S COMPENSATION COVERAGE IS UNLAWFUL AND SHALL SUBJECT AN EMPLOYER TO CRIMINAL PENALTIES AND CIVIL FINES UP TO ONE HUNDRED THOUSAND DOLLARS (\$100,000) IN ADDITION TO THE COST OF COMPENSATION, DAMAGES AS PROVIDED FOR IN SECTION 3706 OF THE LABOR CODE, INTEREST AND ATTORNEY'S FEE.

**THIS PERMIT SHALL EXPIRE BY LIMITATION IF WORK IS NOT COMMENCED WITHIN 180 DAYS.**



**SINGLE FAMILY RESIDENCE**  
 NATIONAL ELECTRICAL CODE, 1990 ED. ARTICLE 220

OWNER: PRICE, RANDY & KERRI

ADDRESS: 2751 PICKERING WAY

General Lighting Load: 2,300 x 3 watts / sq. Ft. = 6,900

Small Kitchen Appliance Load : (2) circuits @ 1,500 watts = 3,000

check box	OTHER LOADS	RATING (R)	NAMEPLATE RATING (NR)	WATTS - LARGER OF (R) / (NR)
X	Stove Top	6,500	6,500	6,500
X	Oven, Single	4,000	4,200	4,200
	Oven, Double	8,000		—
	Stove - (free Standing) cooking Unit	10,000		—
		7,500		—
X	Dishwasher	1,500	1,500	1,500
	Trash Compactor	1,650	—	—
X	Garbage Disposal	1,000	1,200	1,200
X	Microwave Oven	1,200	1,250	1,250
X	Clothes Washer	1,500	1,500	1,500
X	Clothes Dryer	5,000	GAS	0
X	Waterheater	5,000	GAS	0
	Attic Fan (each) <u>   </u> x	1,600		—
	Vent Fan (each) <u>   </u> x	400		—
X	Pool Light (each) <u>2</u> x	500	1,000	1,000
X	Spa Light (each) <u>1</u> x	100	100	100
X	Pumps (each) <u>2-2</u> HPx	1,840	7,360	7,360
	Other			—
	Misc.			—
<b>SUB TOTAL (OF ABOVE WATTS)</b>				<b>= 34,510</b>

First 10,000 watts at 100% (a) 10,000  
 Sub Total 34,510 - 10,000 = 24,510  
 (x) 24,510 X 40% = (b) 9,804

Air Conditioning load (AC) 20,000  
 Electric Heating (EH) 0  
 The larger of (AC) or (EH) at 100% = © 20,000  
 The TOTAL of (a) + (b) + © = (d) 39,804

WATTS (d) 39,804 = 166 AMPERS  
 240 volts

SIZE OF EXISTING SERVICE 200 AMPS.

**RECEIVED**

CITY OF SACRAMENTO  
 PERMIT ASSISTANT  
 MAY 25 2001

X

# FAFCO

## FAFCO SOLAR HEAT EXCHANGER

**DESCRIPTION:** The FAFCO Solar Collector is manufactured in Menlo Park, California. The collector is a specially developed, highly stabilized polyolefin and is of parallel, circular channel design. It is unglazed, uninsulated, and designed for low temperature applications such as swimming pool heating, heat pumps, aquaculture and hydroponics.

**DIMENSIONS:** Header length: ..... 51.5 in. (1.31 m)  
 Width: ..... (Panel body) = 47.5 in. (1.21 m)  
 Overall: ..... 4 ft. X 8 ft. (1.22 X 2.44 m)  
 Effective area: 30.8 ft<sup>2</sup> (2.86 m<sup>2</sup>)  
 4 ft. X 10 ft. (1.22 X 3.05 m)  
 Effective area: = 38.8 ft<sup>2</sup> (3.60 m<sup>2</sup>)

**ROOF MOUNTING SPACE:** Width = [Number of panels X 51.5 in. (131 cm)] + 24 in. (61 cm)  
 Length = Panel length + 24 in. (61 cm)

**RACK SPACE** Width = [Number of panels X 51.5 in. (131 cm)] + 2 in. (5 cm)  
 Length = Panel length + 6 in. (15 cm)

**FLOW:** Maximum recommended flow = 8 gpm per panel  
 3.53 psi head loss (1817 l/hr, 0.248 kg/cm<sup>2</sup>)  
 Minimum recommended flow = 3 gpm per panel  
 0.50 psi head loss (881 l/hr, 0.035 kg/cm<sup>2</sup>)  
 Recommended flow = 4 gpm per panel  
 0.88 psi head loss (308 l/hr, 0.062 kg/cm<sup>2</sup>)

**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 - 2.2 kg/cm <sup>2</sup> )	45 psi (3.21 kg/cm <sup>2</sup> )
212°F (100°C)	0 to 5 psi (0 - 0.35 kg/cm <sup>2</sup> )	5 psi (0.35 kg/cm <sup>2</sup> )
70°F (21°C)	Measured burst pressure of panel body = 700 psi (49 kg/cm <sup>2</sup> )	

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

County of Sacramento  
**SOLAR INSTALLATION WORKSHEET**

Pool/Spa  Domestic Hot Water  Space Heating

LOT PLAN Show Location of Collector(s), Storage Tank(s) and Control

DESIGN DATA  
 Collector MFG: FAFCO Model PROFILE

Dimensions: L 10 X W 4  
 Height 19 lbs. Dry 53 lbs. Wet  
 Max. Live Load 1.33 lbs/ft<sup>2</sup>  
 Heat Transfer (Fluid/Gas)

Certification IAPMO S-1889  
 Storage Tank MFG. N/A Size Gal.  
 Model IAPMO No.

Control MFG. COMPOOL  
 Model LX-22 IAPMO No. UL 684Z  
 Circulator Pump MFG. Motor H.P.  
 Model IAPMO No.

Max. Flow Rate 8 GPM/SCFM  
 System Operating Pressure 0-15 PSI  
 System Operating Temp.: Hi. 95° F/Low 40° F

ROOF DESIGN

Type Covering  
 Type Frame: Truss  Conventional   
 Size of Frame Members 1 x 6 @ 2 o.c.  
 Clear Span 10 Ft. Roof Pitch 4:12  
 Support Required: Yes  No

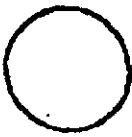
ADDITIONAL INFORMATION

MFR. Installation Data Yes  No   
 MFR. System Flow Diagram Yes  No   
 MFR. Electrical Schematic Yes  No   
 MFR. Test Instruction Yes  No   
 System Certification(s) Yes  No

Telephone:

Address:

Location: Zip:



Indicate North

EW/CL 2-26-01

Contractor SIERRA SUN INDUSTRIES Co. Reg. No.

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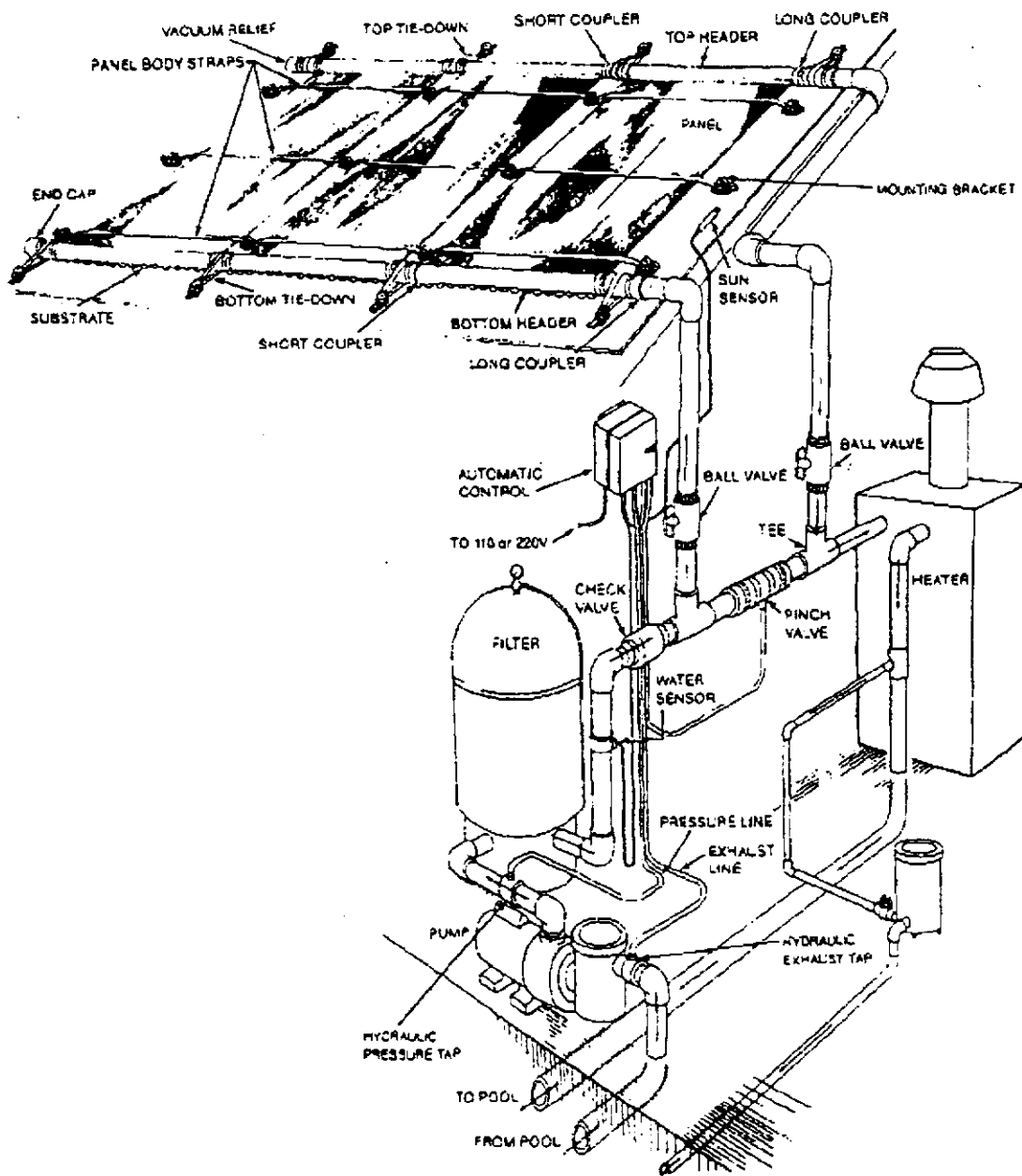
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SIERRA PACIFIC HOME & COMFORT 2001 2-23PM

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# Component Identification

**FACCO**



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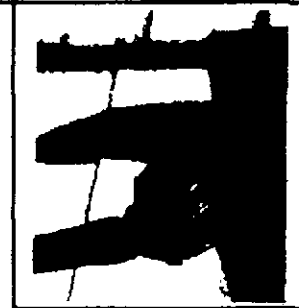
# Mounting the Solar Collectors

# FAFCO

## BRACKET INSTALLATION



1. Locate bracket base on roofing above subroof or sheathing. (Do not attempt to attach brackets to roof material only!)
2. Mark and drill a pilot hole.
3. Inject the FAFCO recommended sealant into the pilot hole, being certain to leave enough on top of the hole so that a small amount will ooze out around the bracket when it is secured.
4. Put the lag screw into the bracket base and secure the bracket base to the roof.
5. Lay the panel strap through the bracket base. Panel straps can be put through single or doubled over.
6. Screw on a bracket cap and hand tighten. A 1/2" ratchet may be used to tighten the cap if desired.



### SUBSTRATE

Substrate is a sheet of 2 1/2" corrugated 4 oz. fiberglass that is used as a protective measure and goes between the solar panel and mounting surface. It will provide the necessary support for the panels and protect the roof. Substrate is required on all roof types and shake or wooden shingle, tar and gravel, tile or cement shingle. Simply lay it under the panel.

### SEALING SEQUENCE

SPECIAL CARE AND ATTENTION SHOULD BE EXERCISED IN SEALING THE LAG SCREWS WHERE THEY PENETRATE THE PRIMARY ROOF. FOLLOW THE DIRECTIONS CAREFULLY.

### BUILT UP ROOFING

A tar and gravel or tile roof requires special care. For further instructions contact your local distributor.

## TOP AND BOTTOM HEADER TIE-DOWN

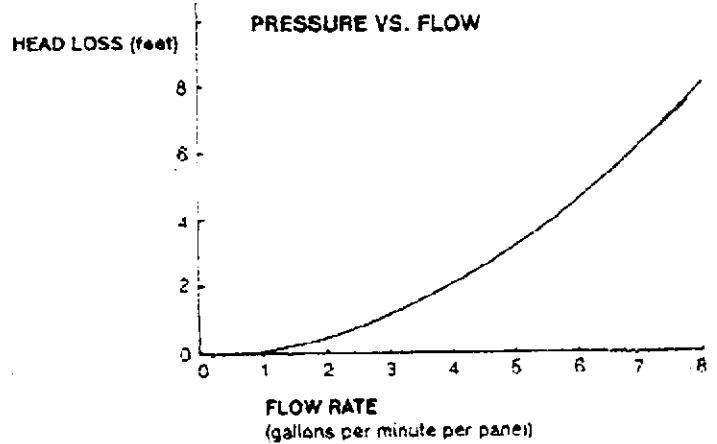
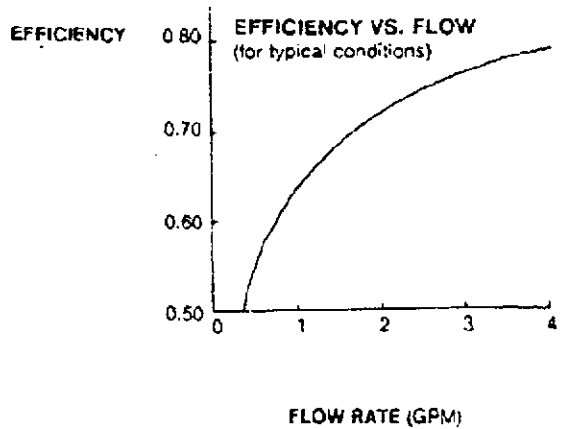
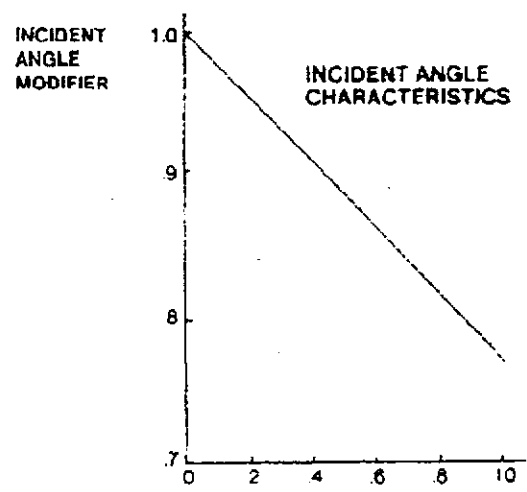
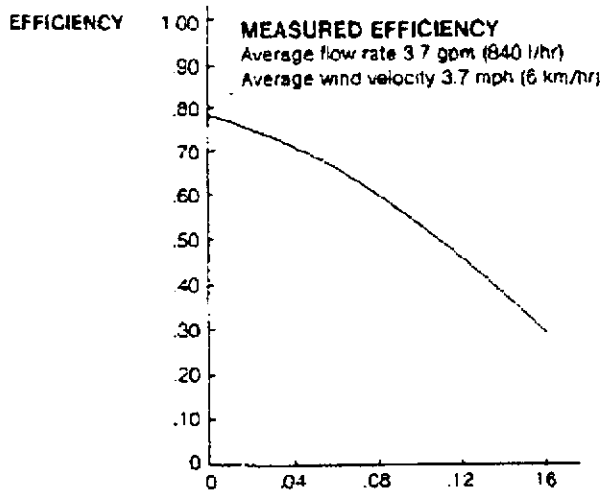


Both the top and bottom ties are secured the same way. Use the webbed strap for the top ties and the stretchy vinyl strap for the bottom ties

1. Pass the strap around the rubber coupler.
2. Mark a spot 4" to 7" from the header pipe of the panel.
3. Secure a mounting bracket at the spot you marked per the instructions above.
4. Lay both ends of the strap through the mounting bracket base and screw on a cap.

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- CHEMICAL RESISTANCE:** Compatible with common collector fluids
- CORROSION:** Non-corrosive
- FREEZING:** The system should be drained before freezing.
- WEATHERABILITY:** Weatherometer, accelerated outdoor exposure, and other extensive laboratory testing demonstrates long-term weatherability of FAFCO collectors. (See warranty.)
- WEIGHT:** *Without water* = 19 lbs (8.6 kg) or 0.47 lbs/ft<sup>2</sup> (2.3 kg/m<sup>2</sup>)  
*Full of water* = 53 lbs (24 kg) or 1.33 lbs/ft<sup>2</sup> (6.5 kg/m<sup>2</sup>)
- ABSORPTIVITY:** 0.96
- EMISSIVITY:** 0.90
- TIME CONSTANT:** 64 seconds
- PERFORMANCE CURVES:**



Additional test data available on request!

P/N 02758 Rev. 3/87