

NOTE: DO NOT COVER OR CONCEAL ANY BUILDING, ELECTRICAL, PLUMBING OR MECHANICAL WORK WITHOUT INSPECTOR'S SIGNATURE IN PROPER PLACE.

NO.	DESCRIPTION	INSPECTOR	DATE
10	FOUNDATION FORMS		
11	CONCRETE SLAB FORMS		
12	MECH/UNDERFLOOR/SLAB		
13	ELECT. UNDERGROUND		
14	ELECT. CONDUIT-SLAB		
15	DO NOT COVER UNTIL INSTALLATION ABOVE HAS BEEN SIGNED		
16	FLOOR JOISTS OR GIRDERS		
17	DO NOT INSTALL SUB FLOOR UNTIL ABOVE HAS BEEN SIGNED		
18	INSULATION/WALL/FLOOR		
19	TOP PLUMBING		
20	TOP MECHANICAL/WALL/CEIL.		
21	ROUGH ELECTRICAL/WALL/CEIL.		
22	FRAME		
23	ROOF PLYWOOD NAIL COMM. & APTS		
24	EXTERIOR LATH/SIDING		
25	DO NOT COVER UNTIL INSTALLATION ABOVE HAS BEEN SIGNED		
26	INT. LATH OR WALL BD. NAILING		
27	DO NOT TAPE PLASTER OR TOP UNTIL ABOVE HAS BEEN SIGNED		
28	SERVICE UNDERGRD CONDUIT		
29	SEWER SERVICE		
30	WATER SERVICE		
31	SPRINKLER SYSTEM		
32	DO NOT COVER UNTIL INSTALLATION ABOVE HAS BEEN SIGNED		
33	GAS TEST		
34	TEMP GAS	ISSUED	EXPIRES
35	POWER POLE		
36	TEMP POWER #		
37	SWIMMING POOLS ONLY		
38	GAS TEST		
39	PLUMBING PRE-GUNITE		
40	PLUMBING PRE-DECK		
41	ELECTRICAL PRE-GUNITE		
42	ELECTRICAL PRE-DECK		
43	ELECTRICAL UNDERGRD		
44	DO NOT COVER UNTIL INSTALLATION ABOVE HAS BEEN SIGNED		

FINAL APPROVALS

FINAL INSP NO. _____

DO NOT OCCUPY BUILDING UNTIL ALL OF THE ABOVE HAVE BEEN SIGNED AND CERTIFICATE OF OCCUPANCY ISSUED

BUILDING SITE ADDRESS: 1658 K58149/100TA SUITE 212
 ASSESSOR PARCEL NO. 225 0890 051
 NAME OF APPLICANT: [Signature]
 LICENSED CONTRACTOR: [Signature]
 PROPERTY OWNER: [Signature]
 ARCH. ENGR. _____
 INSURANCE PLAN CHECK NO. [Signature]

CITY OF SACRAMENTO BUILDING INSPECTION DIVISION 264-5191

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.

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: _____
 Policy Number: _____

(This section need not be completed if the permit is for one hundred dollars (\$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: _____ Applicant: _____ (Signature)

NO. OF STORIES	NO. OF ROOMS	ROOF COVERING	AREA 1ST FLOOR	TOTAL AREA	GARAGE AREA	PATIO AREA	USE ZONE	STREET WIDTH
1	1	BUILDING						
THIS PERMIT IS FOR: <input checked="" type="checkbox"/> BUILDING <input type="checkbox"/> MECHANICAL <input checked="" type="checkbox"/> PLUMBING <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> SITE <input type="checkbox"/> FIRE								
NATURE OF WORK IN DETAIL: install new solar domestic water heater (2 Daniels) [Signature]								
FLOOD STATUS	SPECIAL CONDITIONS ATTACHMENTS: C11, 11C, 11D [Signature]							
VALUATION	\$1499							
ISSUED BY:	[Signature]							
DATE ISSUED	5/28/10							
BUILDING PERMIT FEE	\$							
PLAN CHECK/PROC. FEE	\$							
S.M.I. FEE	\$							
CONST. EXCISE TAX	\$							
CITY BUS LICENSE	\$							
TECH. FEE	\$							
WATER DEV. FEE	\$							
CITY SEWER DEV. FEE	\$							
REG. SEWER FEE	\$							
RESIDENTIAL CONST. TAX	\$							
TOTAL FEES	\$							

2x4 Trusses @ 2' o.c. 10' span
with 2' overhang. Wet collector weight
160 lbs, roof load 4 lb/ft²

Supports (4) provide 1 1/2" roof
clearance

4'x10' Solar collector attached to
2x4 trusses with anodized Alum.
Supports (4) bolted to rafters &
Screws to collector frame



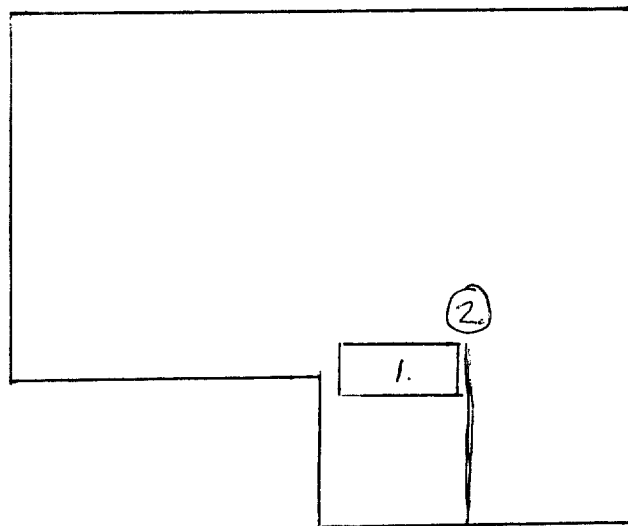
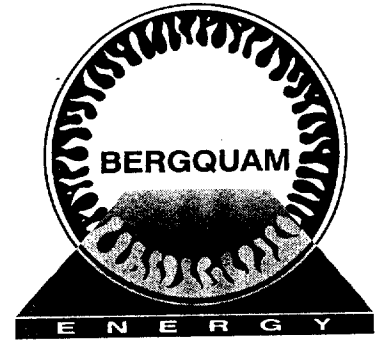
Vertical watermark text:
This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.
The approval of this plan and specification is void if any changes are made without the approval of the Building Inspection Division.
This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.
The approval of this plan and specification is void if any changes are made without the approval of the Building Inspection Division.

Mr. P. 5/30/00

See codes original

solar collector installation on west
facing roof at 1658 Vallarta Circle
Sacramento, CA 95834

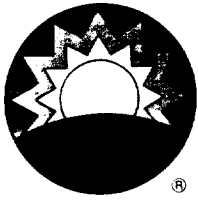
replacing existing



1658 Vallarta Circle

Owner Melbie Pierce

1. Collector installed on plane of roof with $1\frac{1}{2}$ " clearance
Collector is not visible from ~~roof~~ street. installed
weight 160 pounds. Roof load 4 lb/ft^2 .
2. Solaraid storage tank installed on 2' high
platform next to furnace

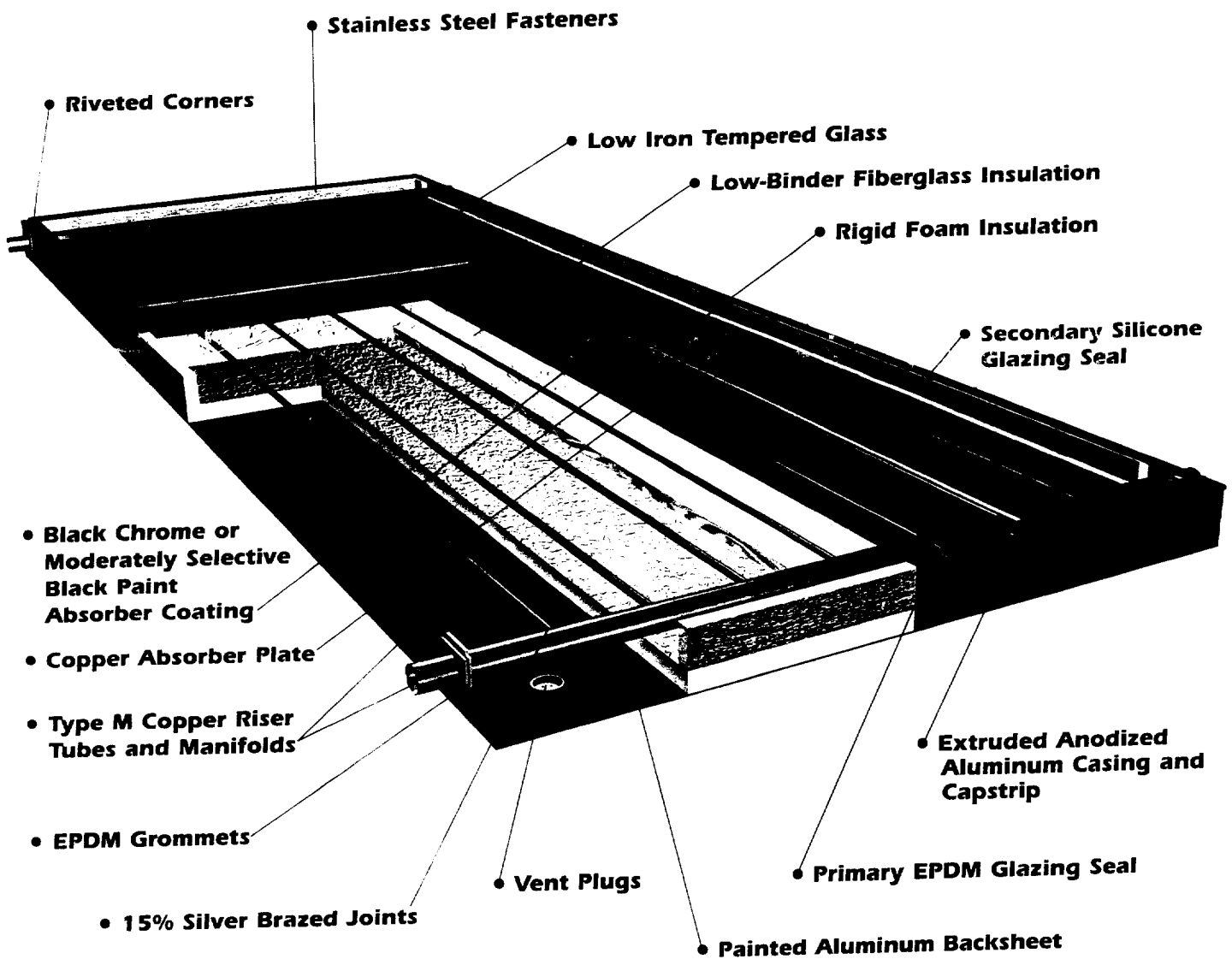


SUNEARTH INC.

THE EMPIRE SERIES

GLAZED FLAT PLATE SOLAR COLLECTORS
Models EP and EC SPECIFICATION SHEET

THE VALUE LEADER IN SOLAR WATER HEATING TECHNOLOGY



PROTECTING OUR ENVIRONMENT—SINCE 1978

SunEarth Inc. EMPIRE SERIES SPECIFICATIONS

Model	Width (inches)	Depth (inches)	Length (inches)	Weight (lbs)	Capacity (Gallons)	Design Flow Rate (GPM)	Pressure Drop at Design Flow Rate (psi)	Max Flow Rate (GPM)	Maximum Operating Pressure (PSIG)	Std. Header Width (inches)	Std. Header Diameter (inches)	Header Center to Center (inches)
EC/EP20	36 1/8	78 1/4	3 1/4	17.30	60	0.60	0.51	12	160	39 3/4	1	73 1/2
EC/EP28	42 1/8	98 1/4	3 1/4	21.88	80	0.78	0.62	12	160	39 3/4	1	93 5/8
EC/EP32	48 1/8	98 1/4	3 1/4	29.81	106	1.00	0.83	12	160	51 3/8	1	93 5/8
EC/EP40	54 1/8	98 1/4	3 1/4	37.74	132	1.20	0.94	12	160	51 3/8	1	115 5/8

THERMAL PERFORMANCE RATINGS*

Temperature Difference (°F)	Inch-Pound Units		
	Btu/ft ² /Day		
	Clear Day (2000 hrs)	Mildly Cloudy Day (1500 hrs)	Cloudy Day (1000 hrs)
A (9°F)	1,332	1,005	680
B (9°F)	1,138	895	565
C (36°F)	1,040	720	402
D (90°F)	395	405	177
E (144°F)	390	137	-

Temperature Difference (°F)	Inch-Pound Units		
	Btu/ft ² /Day		
	Clear Day (2000 hrs)	Mildly Cloudy Day (1500 hrs)	Cloudy Day (1000 hrs)
A (9°F)	1,284	971	659
B (9°F)	1,169	854	542
C (36°F)	984	677	372
D (90°F)	619	343	89
E (144°F)	280	62	-

*A: Air Conditioning (Warm Climate); B: Base Heating (Water Heating/Warm Climate); C: Water Heating (Cool Climate); D: Water Heating (Cool Climate); E: Air Conditioning/Industrial Process Heat. Thermal performance is obtained by multiplying the collector output for the appropriate application and insulation level by the total gross collector area. Performance is based from the Solar Radiation Certification Corp. (SRCC) Document RM-1 and Standard OG-100.

*Performance specifications subject to testing error of +/- 3%

ENGINEERING SPECIFICATIONS

The following shall be the specifications for the solar collectors. Collectors shall be SunEarth Empire model _____ and shall be of the glazed liquid plate type. Collectors shall be tested in conformance with ASHRAE 93-1986 and SRCC 100-81. The collectors also shall be certified by the SRCC and the Florida Solar Energy Center (FSEC).

GENERAL

The dimensions of the collector shall be _____ inches in length, _____ inches in width and 3 1/4 inches in depth. The collector casing shall be an anodized aluminum extrusion (alloy 6063 T5) minimum thickness .060 inch with an architectural dark bronze finish. The casing shall have notched frame rails for ease of plate removal and reinstallation. Sheet metal secured fasteners shall be stainless steel #8-8 #10. The backsheet shall be painted textured aluminum not less than .014 inch thickness. A 1 inch vent plug shall be installed in each of the four corners of the backsheet to minimize condensation.

GLAZING

The collector glazing shall be one sheet of low iron tempered glass with a minimum of 1/8 inch thickness (5/32 inch on EP/EC 40), and a minimum transmissivity of 91 percent (89 on EP/EC 40). The glazing shall be thermally isolated from the casing by a continuous EPDM gasket. There shall be a continuous secondary silicone seal between the glass and casing casing to minimize moisture from entering the casing.

INSULATION

The insulation shall be foil-faced polyisocyanurate foam sheathing board of a minimum 1 inch thickness, siliconed in place to the aluminum backsheet, covered by a low density fiberglass of a minimum 1 inch thickness, providing

Specifications subject to change without notice.

thermal isolation of the foam from the absorber plate. Total thermal resistance shall be a minimum of R-12. The sides and ends of the collector shall be insulated with a minimum of 1 inch foil-faced polyisocyanurate foam sheathing board.

ABSORBER PLATE AND PIPING

The absorber shall consist of a roll-formed copper plate of no less than .008 inch thickness. Risers shall be a minimum of 1/2 inch O.D. Type M copper tubing on no more than 4 1/2 inch centers continuously soldered to the plate utilizing a non-corrosive solder paste with a melting point of 460 F. The risers shall be brazed to 1 1/8 inch O. D. Type M copper manifolds utilizing a copper phosphorous brazing alloy with no less than 15 percent silver content, and conforming to the American Welding Society's BCuP-5 classification. EPDM grommets shall isolate the manifold from the aluminum casing. The absorber plate shall be designed for 160 psig maximum operating pressure.

ABSORBER COATING AND PERFORMANCE CURVE

A) Black Chrome (EC Series): The absorber coating shall be black chrome on nickel with a minimum absorptivity of 95 percent and a maximum emissivity of 12 percent. The instantaneous efficiency of the collector shall be a minimum Y-intercept of 0.714 and a slope of no less than -0.7271 (BTU/ft²-hr)/F.

B) Moderately Selective Black Paint (EP Series): The absorber coating shall be a moderately-selective black paint with a minimum absorptivity of 94 percent and a maximum emissivity of 56 percent. The instantaneous efficiency of the collector shall have a minimum Y-intercept of 0.682 and a slope of no less than -0.7995 (BTU/ft²-hr)/F.

MANUFACTURED BY:



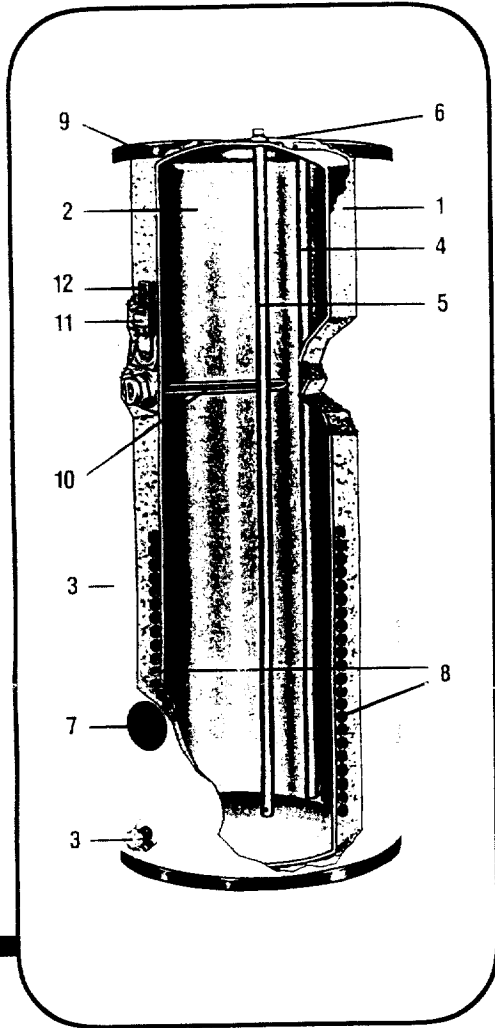
SunEarth Inc.

4315 Santa Ana St • Ontario, CA 91761
909-605-5610 • Fax 909-605-5613

AVAILABLE FROM:

RHEEMGLAS® Solaraide® HE WITH HEAT EXCHANGER

CONSTRUCTION FEATURES



All Models—

1. **R-Foam Insulation**—Rigid R-16.7 polyurethane foam for improved economy and fuel savings. The use of our patented insulator foam stops allows R-Foam to be injected directly between the tank and outer jacket. This uniform R-Foam application minimizes the possibility of costly heat loss caused by uninsulated areas (voids) common to some other foam processes.
2. **Rheemglas Tank**—Rheem® water heater tanks are made of special materials with exacting care. The tank surface is coated with an exclusive porcelain formula called Rheemglas and fused to the solid steel at 1600°. The result is a smooth, tough, glass-like lining that effectively resists the corrosive attacks of hot water chemicals, thereby assuring long water heater life. Tank is designed and tested to withstand 300 PSI hydrostatic test pressure for working pressure of 150 PSI. U.L. Standard.
3. **Collector Feed and Return**—Located for easy access and simple connections. 3/4" NPT female connections at inlet and outlet.
4. **Cold Water Inlet**—brings cold water to tank bottom to prevent mixing with already heated water.
5. **Anode Rod**—Equalizes aggressive water action; different types factory-installed and designed to match local water chemical characteristics throughout the U.S.
6. **Cold Water Inlet, Hot Water Outlet, Relief Valve and Anode Rod**—at top of tank for easy access and fast, economical installation.
7. **Thermostat Opening**—1/2" NPT opening for accurate sensing of water temperature.
8. **Heat Exchanger**—Copper tubing wrapped around and secured to the tank. Double-wall, vented design for positive leak detection and foamed in place with R-Foam for high efficiency.

Electric Models—

9. **Electrical Junction Box**—(for 1/2" and 3/4" conduit) placed above heating element for easy installation.
10. **High-Efficiency Heating Elements**—Specially treated, double layer of magnesium oxide and copper to resist corrosion; replacements screw in easily.
11. **Automatic Temperature Control**—Thermostat keeps water at desired temperature.
12. **Over Temperature Protector**—Automatically cuts off power in excess temperature situations.

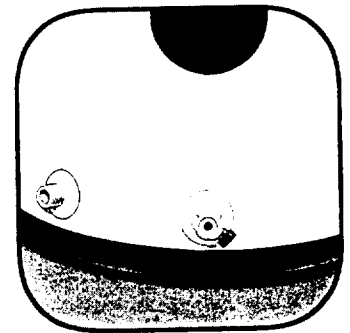
COPPER COIL DATA Type L Copper

Maximum pressure = 150 psi
Maximum temperature = 185° F.
Tube I.D. = 5/8"

Solaraide HE Tank Capacity	Coil Capacity Gallons	Length of Tubing Around Tank (Feet)
80 Gallon	2.2	120

PRESSURE DROP THROUGH COIL (Feet of H ₂ O)	
Flow Rate	Head Loss (Feet) 80 Gallon
1 GPM	1.3
2 GPM	4.8
3 GPM	10.0

A special 1/2" NPT opening is provided for installation of a "probetype" thermostat.



The number one choice of plumbing professionals.

**RHEEM
MANUFACTURING
COMPANY**

**WATER
HEATER
DIVISION**

"In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice."

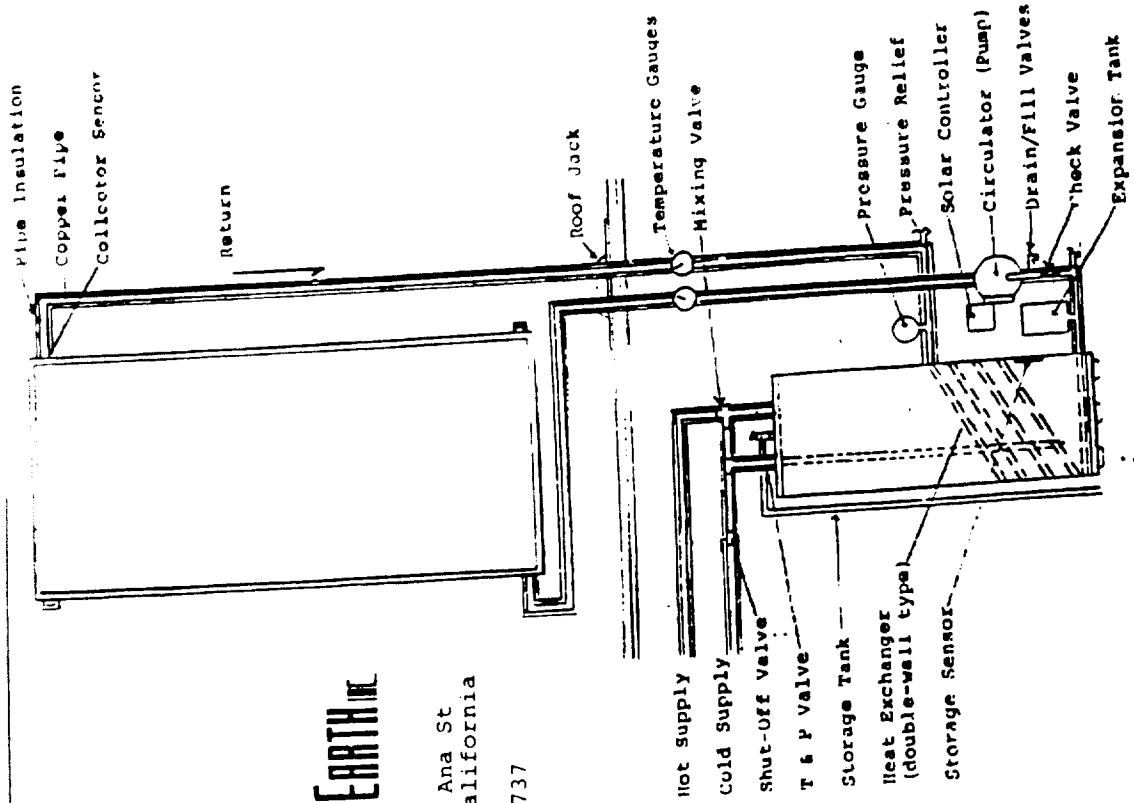


101 Bell Road, P.O. Box 244020, Montgomery, Alabama 36124-4020

PRINTED IN U.S.A.

2-94 BP

FORM NO. 101-16 REV. 5



4315 Santa Ana St
 Ontario, California
 91761
 (909)984-8737

How the Sunex SDHW System works

There are three primary components that are interrelated in every Sunex SDHW system; the solar collector(s), the heat transfer fluid control and the storage tank.

The solar collector is the heat source for the Sunex SDHW system. It transfers heat collected from the sun to the fluid flowing through the collector absorber and exchanges the fluid heat into the storage tank via a double wall heat exchanger.

The fluid handling control, (Powerpac), determines when there is heat to add to storage by comparing the solar collector temperature to the storage tank temperature and then either switching "on" or "off" the pump that circulates the non-toxic heat transfer fluid, (H.T.F.), through the system piping.

The tank will store enough hot water for use in a 24 hour period. A optional heating element may be used to supplement the storage during periods of inclement weather or excessive demand.

Verification of Operation

A pressure gauge will verify if there are any leaks along with a visual inspection. The pressure gauge will show the effects of temperature on the closed loop piping; starting @ 30PSI, the pressure gauge will show up to 40PSI if the solar collectors are very hot and 20PSI when the solar collectors are very cold.

The temperature gauges will verify system operation by indicating a 4 degree F rise on the return pipe when the pump is on during a sunny day. A flow control sight glass will also indicate the pump is operating.

Emergency Shut-Down Procedures

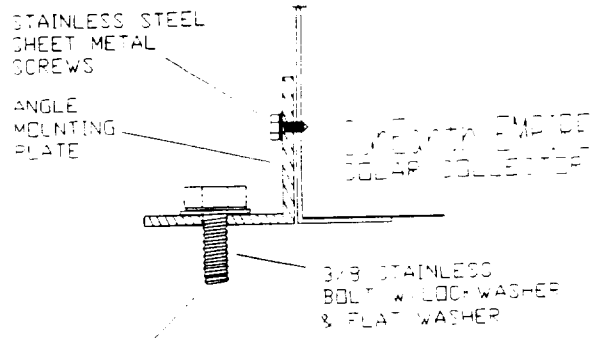
In case of an emergency, the Sunex SDHW system can be isolated by simply turning off the cold water supply valve and unplugging the control, (line-cord connected).

Procedures for Non-Use Periods

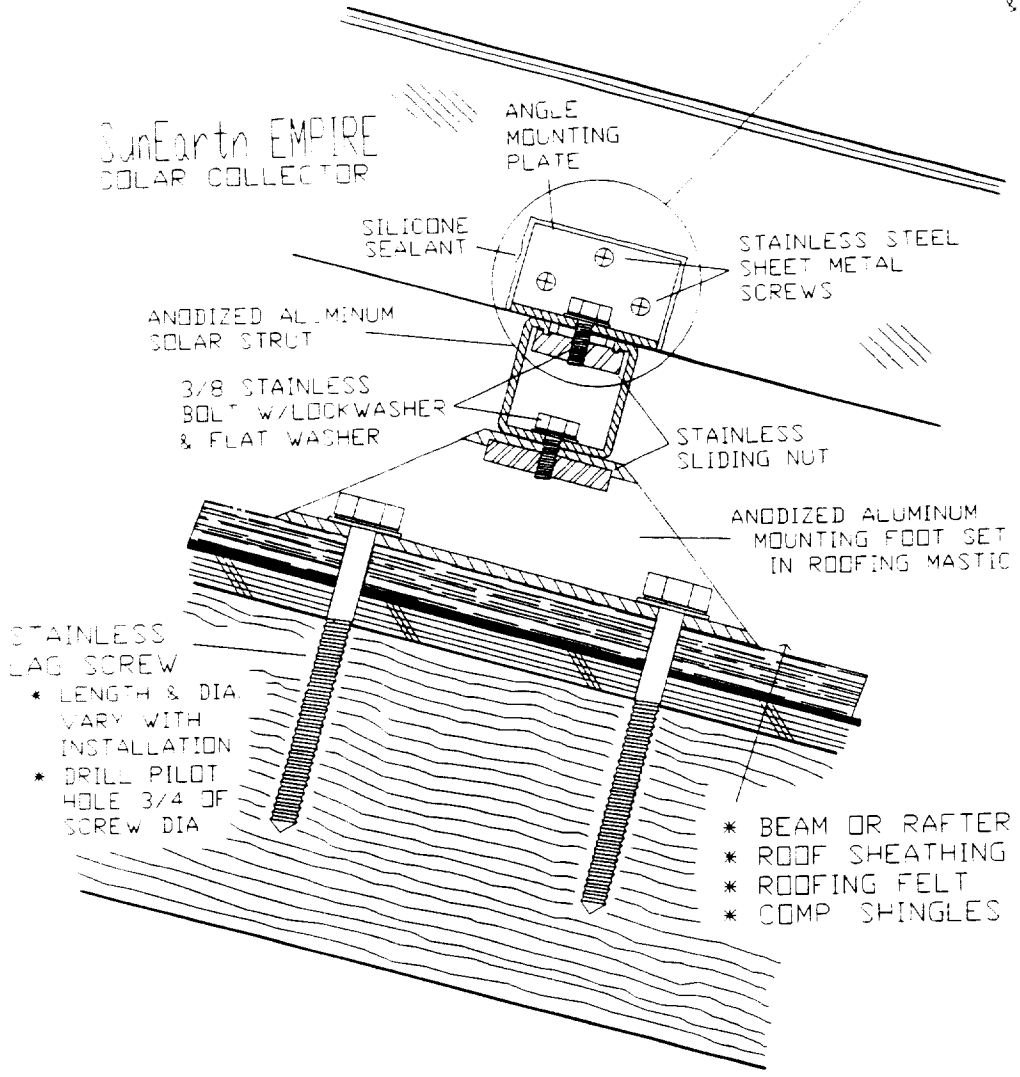
You do not have to do anything to the system. The Sunex SDHW system will not freeze and stagnation will not harm the collectors or components, however, you may turn "off" the solar control by unplugging the power. A manual "on/off" switch is located behind the inspection cover.

Contact for Service:

SIDE VIEW



SunEarth EMPIRE SOLAR COLLECTOR



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TILE COMPOSITION SHINGLE MOUNTING DETAIL

SunEarth, Inc.
Quality Solar Energy Products
4815 Santa Ana St., Ontario, CA 91761

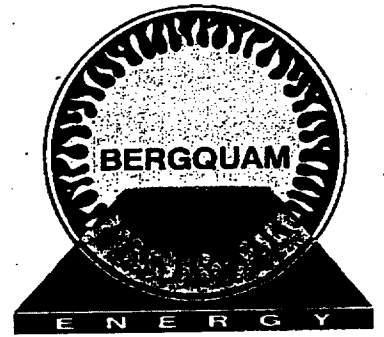
Mounting hardware available from

DRAWN BY
A. EWELL
05/05/88
NOT TO
SCALE



This set of plans and specifications must be kept on the job at all times and it is unlawful to make any changes or alterations from the same without written permission from the Building Inspection Division.

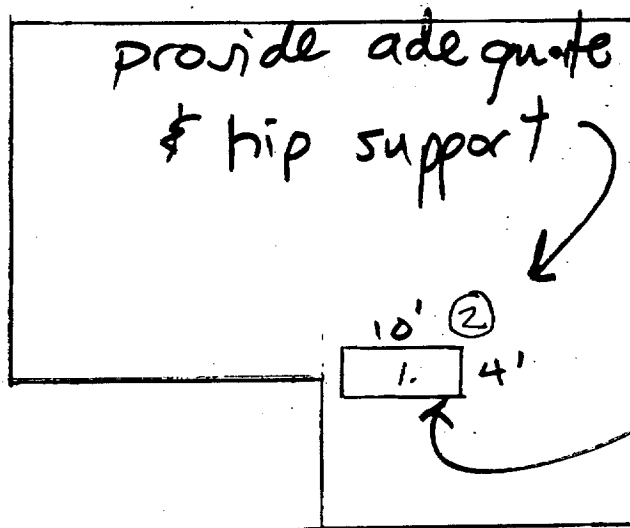
The approval of this plan and specification SHALL NOT be held to permit or approve the violation of any City Ordinance or State Law.



Max 10'-0" span

Max 2x6 rafters @ 24" cc

Job
COPY



provide adequate ridge, valley & hip support

Max 120 lbs. wet weight.

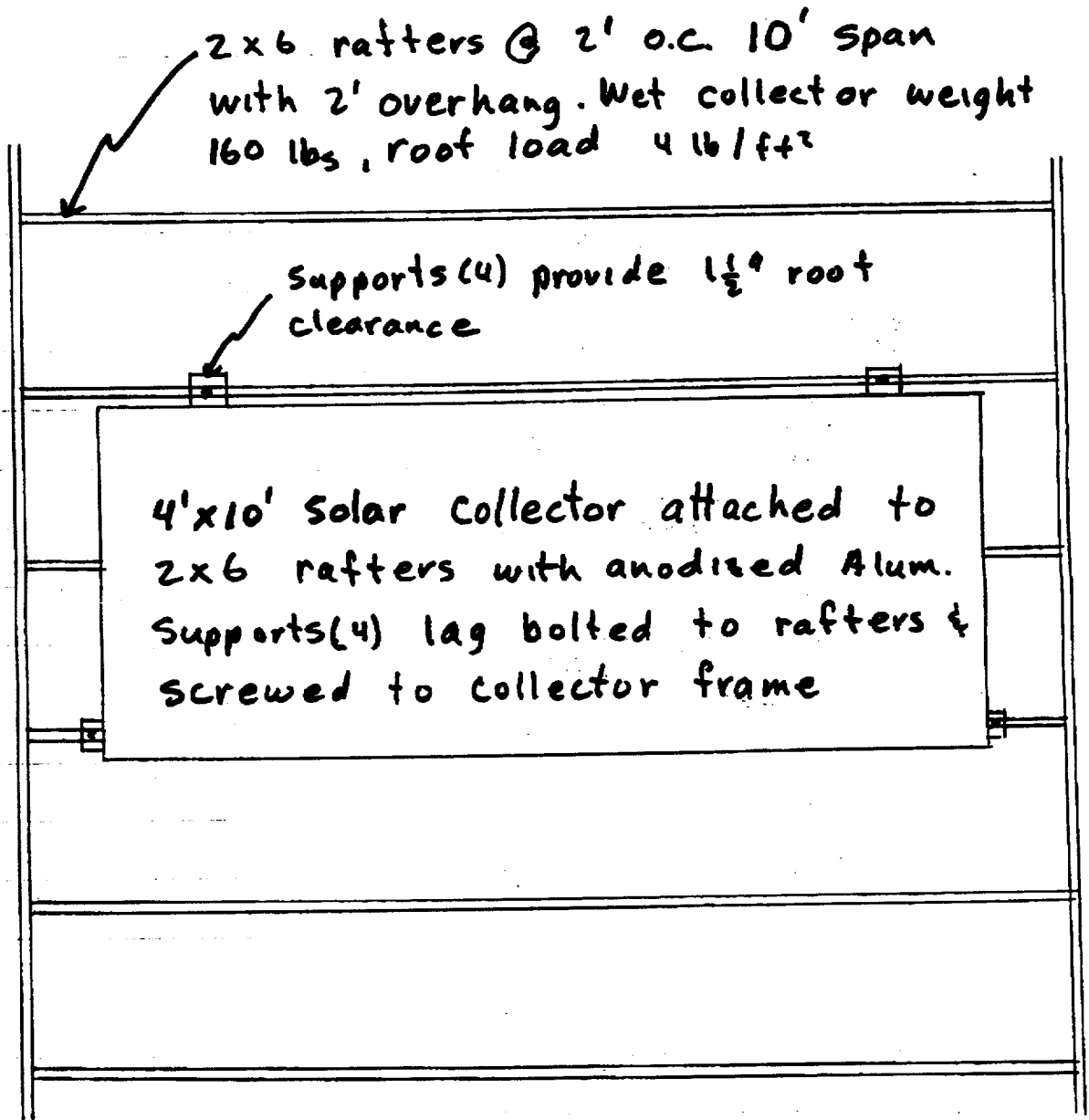
1658 Vallarta Circle

Owner: Mellie Pierce

1. Collector installed on plane of roof with 1 1/2" clearance. Collector is not visible from ~~roof~~ street. installed weight 160 pounds. Roof load 4 lb/ft².
2. Solaraid storage tank installed on 2' high platform next to furnace.

Model EC/EP 40

Matt P. 5/23/00



solar collector installation on west
facing roof at 1658 Vallarta Circle
Sacramento, CA 95834

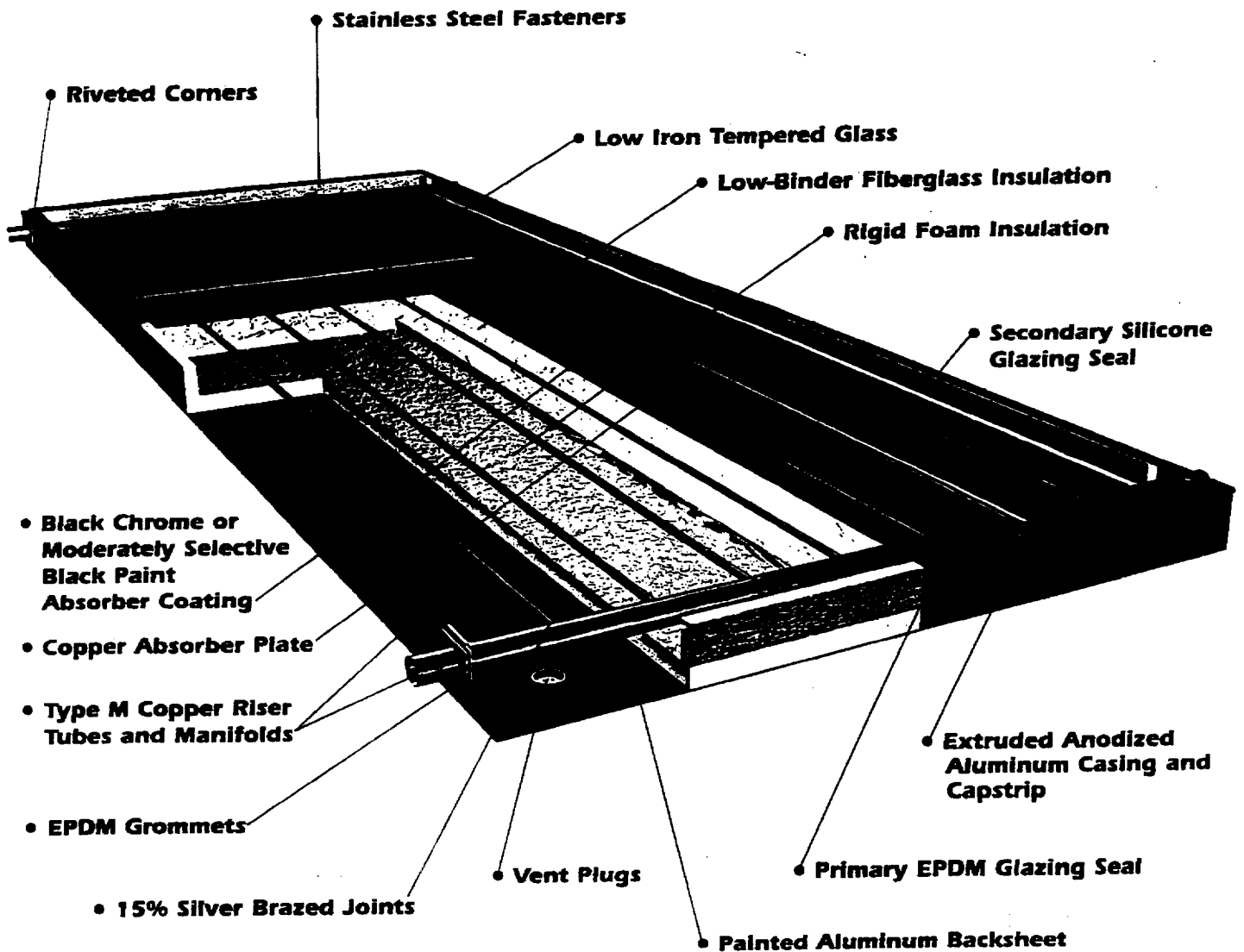


SUN EARTH INC.

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Models EP and EC SPECIFICATION SHEET

THE VALUE LEADER IN SOLAR WATER HEATING TECHNOLOGY



PROTECTING OUR ENVIRONMENT—SINCE 1978

SunEarth Inc. EMPIRE SERIES SPECIFICATIONS

SunEarth Model No	Width Inches	Length Inches	Depth Inches	Gross Area Sq Ft	Net Area Sq Ft	Dry Weight Lbs	Fluid Capacity U.S. Gallons	Design Flow Rate GPM	Pressure Drop at Design Flow Rate	Max Flow Rate GPM	Maximum Operating Press PSIG	Std Header Width Inches	Std Header Diameter Inches Nominal	Header Center to Center Inches
EC/EP20	36 1/8	78 1/4	3 1/4	19.70	17.30	60	0.60	0.51	.015	12	160	39 3/4	1	73 1/2
EC/EP24	36 1/8	98 1/4	3 1/4	24.61	21.88	80	0.78	0.62	.017	12	160	39 3/4	1	93 5/8
EC/EP32	48 1/8	98 1/4	3 1/4	32.79	29.81	106	1.00	0.83	.018	12	160	51 3/8	1	93 5/8
EC/EP40	48 1/8	122 1/4	3 1/4	40.81	37.33	141	1.20	1.04	.020	12	160	51 3/8	1	115 5/8

THERMAL PERFORMANCE RATINGS*

MODEL EP

MODEL EC

Inch-Pound Units

Btu/ft²/Day

Category (T-T _a)	CLEAR DAY 2000 Btu/ft ² /Day	MILDLY CLOUDY DAY 1500 Btu/ft ² /Day	CLOUDY DAY 1000 Btu/ft ² /Day
A(-9°F)	1,332	1,005	680
B(9°F)	1,218	890	565
C(36°F)	1,040	720	402
D(90°F)	699	405	127
E(144°F)	390	137	-

Inch-Pound Units

Btu/ft²/Day

Category (T-T _a)	CLEAR DAY 2000 Btu/ft ² /Day	MILDLY CLOUDY DAY 1500 Btu/ft ² /Day	CLOUDY DAY 1000 Btu/ft ² /Day
A(-9°F)	1,284	971	659
B(9°F)	1,169	854	542
C(36°F)	984	677	372
D(90°F)	619	343	89
E(144°F)	280	62	-

A-Pool Heating (Warm Climate) B-Pool Heating C-Water Heating (Warm Climate) D-Water Heating (Cool Climate) E-Air Conditioning/Industrial Process Heat. Thermal performance is obtained by multiplying the collector output for the appropriate application and insulation level by the total gross collector area. *Collector ratings are derived from the Solar Rating & Certification Corp (SRCC) Document RM-1 and Standard OG-100.

ENGINEERING SPECIFICATIONS

(Performance specifications subject to testing error of +/- 3%)

The following shall be the specifications for the solar collectors. Collectors shall be SunEarth Empire model _____ and shall be of the glazed liquid flat plate type. Collectors shall be tested in conformance with ASHRAE 93-1986, and SRCC 100-81. The collectors also shall be certified by the SRCC and the Florida Solar Energy Center (FSEC)

GENERAL

The dimensions of the collector shall be _____ inches in length, _____ inches in width and 3 1/4 inches in depth. The collector casing shall be an anodized aluminum extrusion (alloy 6063 T5), minimum thickness .060 inch, with an architectural dark bronze finish. The casing shall have notched framewalls for ease of plate removal and reinstallation. Sheet metal screwed fasteners shall be stainless steel (18-8 #10). The backsheet shall be painted textured aluminum not less than .014 inch thickness. A 1 inch vent plug shall be installed in each of the four corners of the backsheet to minimize condensation

GLAZING

The collector glazing shall be one sheet of low iron tempered glass, with a minimum of 1/8 inch thickness (5/32 inch on EP/EC 40), and a minimum transmissivity of 91 percent (89 on EP/EC 40). The glazing shall be thermally isolated from the casing by a continuous EPDM gasket. There shall be a continuous secondary silicone seal between the glass and casing capstrip to minimize moisture from entering the casing.

INSULATION

The insulation shall be foil-faced polyisocyanurate foam sheathing board of a minimum 1 inch thickness, silicone in place to the aluminum backsheet, covered by low-binder fiberglass of a minimum 1 inch thickness, providing

Specifications subject to change without notice.

thermal isolation of the foam from the absorber plate. Total thermal resistance shall be a minimum of R-12. The sides and ends of the collector shall be insulated with a minimum of 1 inch foil-faced polyisocyanurate foam sheathing board.

ABSORBER PLATE AND PIPING

The absorber shall consist of a roll-formed copper plate of no less than .008 inch thickness. Risers shall be a minimum of 1/2 inch O.D. Type M copper tubing on no more than 4 1/2 inch centers continuously soldered to the plate utilizing a non-corrosive solder paste with a melting point of 460°F. The risers shall be brazed to 1 1/8 inch O. D. Type M copper manifolds utilizing a copper phosphorous brazing alloy with no less than 15 percent silver content, and conforming to the American Welding Society's BCuP-5 classification. EPDM grommets shall isolate the manifold from the aluminum casing. The absorber plate shall be designed for 160 psig maximum operating pressure.

ABSORBER COATING AND PERFORMANCE CURVE

A) Black Chrome (EC Series): The absorber coating shall be black chrome on nickel with a minimum absorptivity of 95 percent and a maximum emissivity of 12 percent. The instantaneous efficiency of the collector shall be a minimum Y-intercept of 0.714 and a slope of no less than -0.7271 (BTU/ft²-hr)/F.

B) Moderately Selective Black Paint (EP Series): The absorber coating shall be a moderately-selective black paint with a minimum absorptivity of 94 percent and a maximum emissivity of 56 percent. The instantaneous efficiency of the collector shall have a minimum Y-intercept of 0.682 and a slope of no less than -0.7995 (BTU/ft²-hr)/F.

MANUFACTURED BY:



SunEarth Inc.

4315 Santa Ana St. • Ontario, CA 91761
(909) 605-5610 • Fax (909) 605-5613

AVAILABLE FROM:



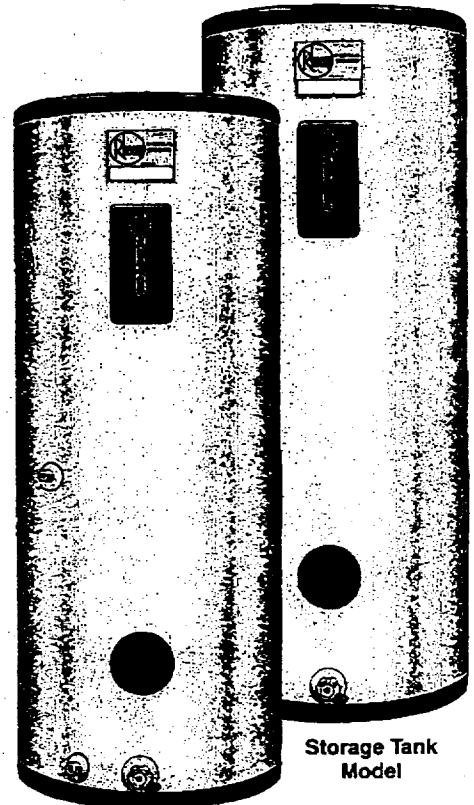
RHEEMGLAS® Solaraide® HE

Solar Heat Exchanger Storage Tank or Electric Storage Water Heater

Available in 80 gallon models.

- 5 Year Limited Tank Warranty*
- 1 Year Limited Parts Warranty*
- Patented R-Foam® insulation process with R-value of 16.7
- Choice of two models... Storage tank or single element water heater, both specially equipped for installation with most closed-loop residential solar water heating systems
- Exclusive wrap-around, foamed-in-place, all copper heat exchanger features a double-wall vented design
- A special 1/2" NPT thermostat opening for accurate sensing of water temperature
- Collector feed and return fittings are located for easy access and simple connections.
- Isolated tank design for better heat retention

*See Residential Warranty Information Brochure for complete warranty information.



Electric Storage Water Heater

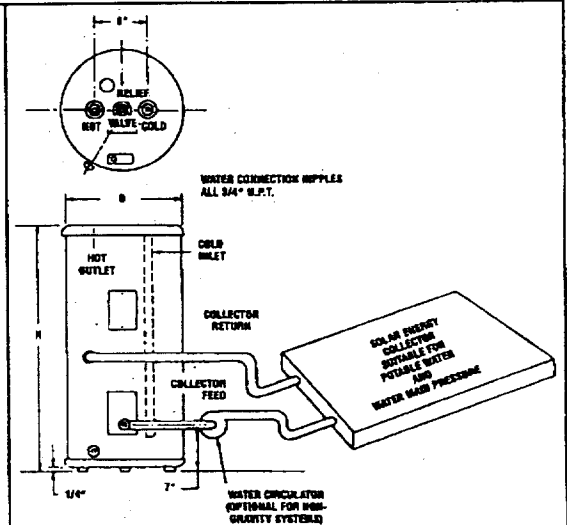
Storage Tank Model

SPECIFICATIONS

Model Number	Tank Capacity Gallons	Maximum U.L. Listed Wattages	Dimensions		Approximate Shipping Weight—Lbs.
			"H"	"D"	
81V-80-HE-1	80	6000W	58 $\frac{5}{8}$ "	24 $\frac{7}{16}$ "	212
81V-80-HE-T	80	STORAGE ONLY	58 $\frac{5}{8}$ "	24 $\frac{7}{16}$ "	212

NOTES:

- Unless otherwise specified standard 240 volt AC will be furnished. 120 volt, 208 volt, 277 volt and 480 volt AC supplied on special order, no extra cost.
- Units are shipped with a 4500 watt element. If heating elements of different wattages than those shown are demanded by zone requirements they must be specifically requested.
- Copper coil data, reverse side.
- To prevent corrosion, proper pH levels in transfer fluid must be maintained.
- Solaraide models meet all current state requirements for solar storage tanks. The tanks are Rheemglas lined and are designed to operate up to 150 PSI.



RHEEMGLAS® Solaraide® HE WITH HEAT EXCHANGER

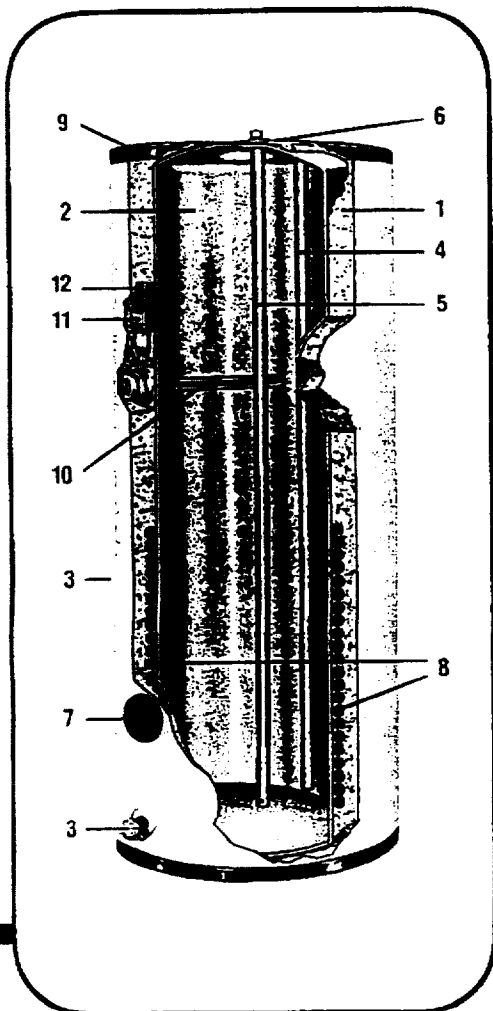
CONSTRUCTION FEATURES

All Models—

1. **R-Foam Insulation**—Rigid R-16.7 polyurethane foam for improved economy and fuel savings. The use of our patented insulator foam stops allows R-Foam to be injected directly between the tank and outer jacket. This uniform R-Foam application minimizes the possibility of costly heat loss caused by uninsulated areas (voids) common to some other foam processes.
2. **Rheemglas Tank**—Rheem® water heater tanks are made of special materials with exacting care. The tank surface is coated with an exclusive porcelain formula called Rheemglas and fused to the solid steel at 1600°. The result is a smooth, tough, glass-like lining that effectively resists the corrosive attacks of hot water chemicals, thereby assuring long water heater life. Tank is designed and tested to withstand 300 PSI hydrostatic test pressure for working pressure of 150 PSI. U.L. Standard.
3. **Collector Feed and Return**—Located for easy access and simple connections. 3/4" NPT female connections at inlet and outlet.
4. **Cold Water Inlet**—brings cold water to tank bottom to prevent mixing with already heated water.
5. **Anode Rod**—Equalizes aggressive water action; different types factory-installed and designed to match local water chemical characteristics throughout the U.S.
6. **Cold Water Inlet, Hot Water Outlet, Relief Valve and Anode Rod**—at top of tank for easy access and fast, economical installation.
7. **Thermostat Opening**—1/2" NPT opening for accurate sensing of water temperature.
8. **Heat Exchanger**—Copper tubing wrapped around and secured to the tank. Double-wall, vented design for positive leak detection and foamed in place with R-Foam for high efficiency.

Electric Models—

9. **Electrical Junction Box**—(for 1/2" and 3/4" conduit) placed above heating element for easy installation.
10. **High-Efficiency Heating Elements**—Specially treated, double layer of magnesium oxide and copper to resist corrosion; replacements screw in easily.
11. **Automatic Temperature Control**—Thermostat keeps water at desired temperature.
12. **Over Temperature Protector**—Automatically cuts off power in excess temperature situations.



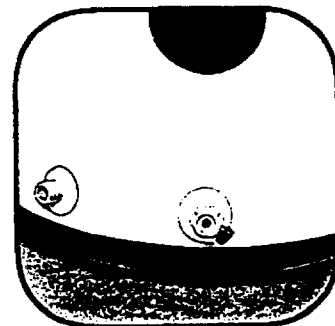
COPPER COIL DATA Type L Copper

Maximum pressure = 150 psi
Maximum temperature = 185°F.
Tube I.D. = 5/8"

Solaraide HE Tank Capacity	Coil Capacity Gallons	Length of Tubing Around Tank (Feet)
80 Gallon	2.2	120

PRESSURE DROP THROUGH COIL (Feet of H ₂ O)	
Flow Rate	Head Loss (Feet) 80 Gallon
1 GPM	1.3
2 GPM	4.8
3 GPM	10.0

A special 1/2" NPT opening is provided for installation of a "prober-type" thermostat.



The number one choice of plumbing professionals.

RHEEM MANUFACTURING COMPANY **WATER HEATER DIVISION**

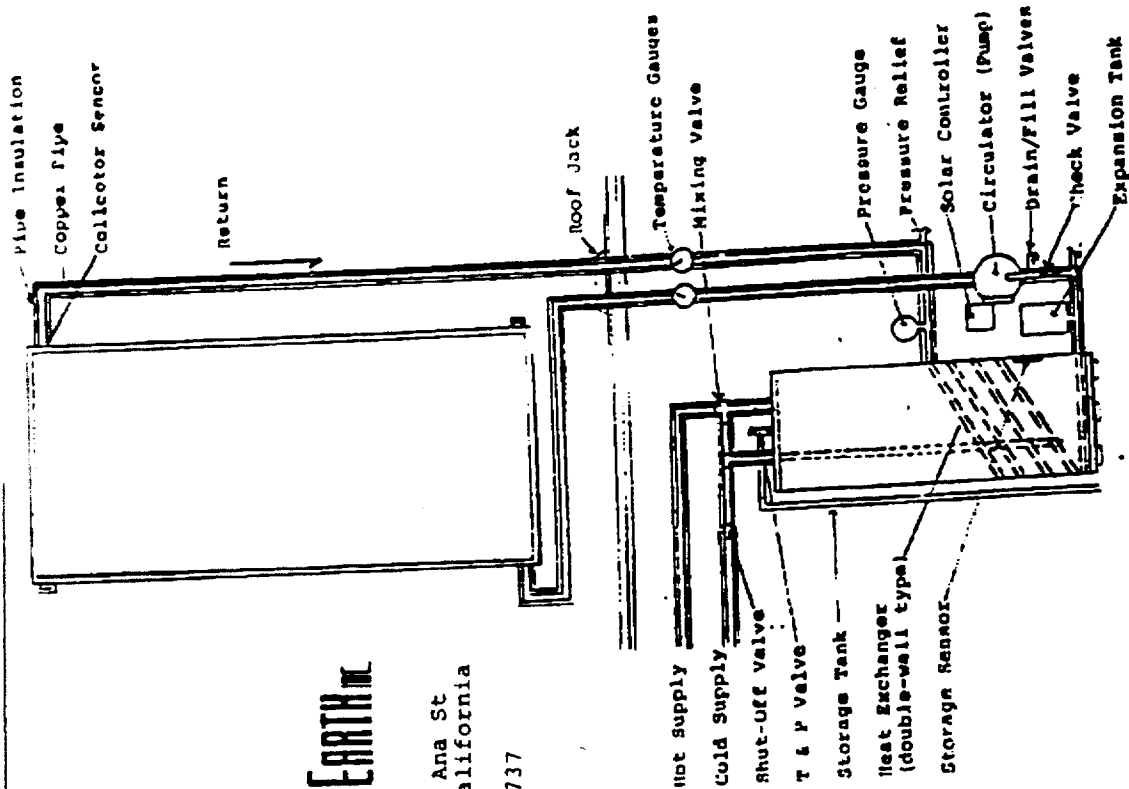
101 Bell Road, P.O. Box 244020, Montgomery, Alabama 36124-4020

"In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice."



SUNEX SDHW System Schematic Drawing

INSTRUCTIONS FOR THE SUNEX SDHW SYSTEM



4315 Santa Ana St
 Ontario, California
 91761
 (909)984-8737

How the Sunex SDHW System works

There are three primary components that are interrelated in every Sunex SDHW system; the solar collector(s), the heat transfer fluid control and the storage tank.

The solar collector is the heat source for the Sunex SDHW system. It transfers heat collected from the sun to the fluid flowing through the collector absorber and exchanges the fluid heat into the storage tank via a double wall heat exchanger.

The fluid handling control, (Powerpac), determines when there is heat to add to storage by comparing the solar collector temperature to the storage tank temperature and then either switching "on" or "off" the pump that circulates the non-toxic heat transfer fluid, (H.T.F.), through the system piping.

The tank will store enough hot water for use in a 24 hour period. A optional heating element may be used to supplement the storage during periods of inclement weather or excessive demand.

Verification of Operation

A pressure gauge will verify if there are any leaks along with a visual inspection. The pressure gauge will show the effects of temperature on the closed loop piping; starting @ 30PSI, the pressure gauge will show up to 40PSI if the solar collectors are very hot and 20PSI when the solar collectors are very cold.

The temperature gauges will verify system operation by indicating a 4 degree F rise on the return pipe when the pump is on during a sunny day. A flow control sight glass will also indicate the pump is operating.

Emergency Shut-Down Procedures

In case of an emergency, the Sunex SDHW system can be isolated by simply turning off the cold water supply valve and unplugging the control, (line-cord connected).

Procedures for Non-Use Periods

You do not have to do anything to the system. The Sunex SDHW system will not freeze and stagnation will not harm the collectors or components, however, you may turn "off" the solar control by unplugging the power. A manual "on/off" switch is located behind the inspection cover.

Contact for Service: