

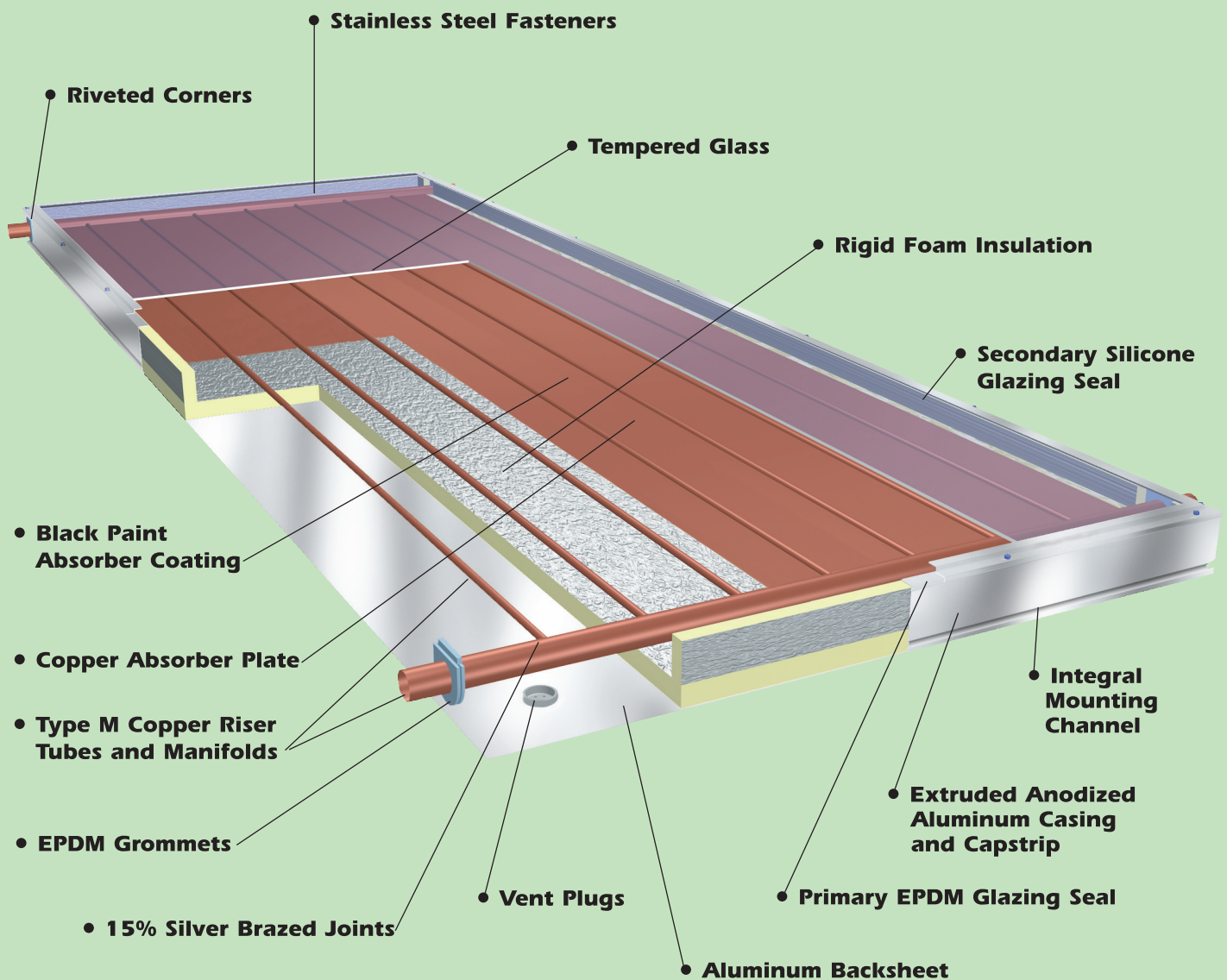


SUN EARTH INC.

THE **SUNBELT** SERIES

GLAZED FLAT PLATE SOLAR COLLECTORS
Model SB SPECIFICATION SHEET

THE VALUE LEADER IN SOLAR WATER HEATING TECHNOLOGY



PROTECTING OUR ENVIRONMENT—SINCE 1978

SunEarth Inc. SUNBELT SERIES SPECIFICATIONS

SunEarth Model No.	Width Inches	Length Inches	Depth Inches	Gross Area Sq Ft	Net Aperture Sq Ft	Dry Weight, Lbs.	Fluid Capacity U.S. Gallons	Design Flow Rate GPM	Pressure Drop at Design Flow Rate in PSIG	Max Flow Rate GPM	Maximum Operating Press PSIG	Std. Header Width, Inches	Std. Header Diameter, Inches Nominal	Header, Center to Center, Inches
SB-24-0.75	36 1/8	98 1/4	3 1/4	24.61	21.88	79	0.78	0.62	0.0086	5	160	39 3/4	3/4	93 5/8
SB-32-0.75	48 1/8	98 1/4	3 1/4	32.79	29.81	105	1.00	0.83	0.0143	5	160	51 3/8	3/4	93 5/8
SB-40-0.75	48 1/8	122 1/4	3 1/4	40.81	37.33	140	1.20	1.04	0.025	5	160	51 3/8	3/4	115 5/8

MODEL SB

THERMAL PERFORMANCE RATINGS*

MODEL SB

IP Units			
BTU/ft ² -Day			
Category (Ti-Ta)	CLEAR DAY 2000 Btu/ft ² -Day	MILDLY CLOUDY DAY 1500 Btu/ft ² -Day	CLOUDY DAY 1000 Btu/ft ² -Day
<small>Ti = inlet fluid temp Ta = ambient air temp</small>			
A(-9°F)	1,335	1,015	700
B(9°F)	1,135	820	505
C(36°F)	855	545	250
D(90°F)	340	105	-
E(144°F)	-	-	-

SI Units			
kWh/m ² -Day			
Category (Ti-Ta)	CLEAR DAY 23 MJ/m ² -Day	MILDLY CLOUDY DAY 17 MJ/m ² -Day	CLOUDY DAY 11 MJ/m ² -Day
<small>Ti = inlet fluid temp Ta = ambient air temp</small>			
A(-9°F)	4.2	3.2	2.2
B(9°F)	3.6	2.6	1.6
C(36°F)	2.7	1.7	0.8
D(90°F)	1.1	0.3	-
E(144°F)	-	-	-

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 insolation level by the total gross collector area. *Collector ratings are derived from 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 SunBelt model _____, and shall be of the glazed liquid flat plate type. Collectors shall be tested in conformance with ASHRAE 93-2003 and Solar Rating and Certification Corporation (SRCC) Standard 100-05, and have their thermal performance rated according to SRCC Document RM-1. The collectors shall be certified by the SRCC and the Florida Solar Energy Center (FSEC), and listed by the International Association of Plumbing and Mechanical Officials (IAPMO).

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. 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 aluminum. A 1 inch vent plug shall be installed in each of the four corners of the backsheet to minimize condensation. An integral mounting channel shall allow the solar collector to be mounted without penetration of the extruded aluminum casing.

GLAZING

The collector glazing shall be one sheet of tempered glass, with a minimum of 1/8 inch thickness (5/32 inch on SB 40), and a minimum transmissivity of 85 percent (84 on SB 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, siliconed in place to the aluminum backsheet. Total thermal resistance shall be a minimum of R-6.5. 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 7/8 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

Black Paint (SB Series): The absorber coating shall be flat black paint. The instantaneous efficiency of the collector shall have a minimum Y-intercept of 0.661 and a slope of no less than -1.19 BTU/ft²-hr-°F.

Note: Please refer to the SRCC website at www.solar-rating.org for the actual y-intercept and slope for each collector.

Due to SunEarth's policy of continuous product improvement, specifications are subject to change without notice.

<p>MANUFACTURED BY:</p>  <p>SunEarth Inc. 8425 Almeria Avenue • Fontana, CA 92335 (909) 434-3100 • Fax (909) 434-3101 www.sunearthinc.com</p>	<p>AVAILABLE FROM:</p>  <p>Hessity Brothers Graphics Full Service Printing</p>
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