



SunEARTH

THE **SUNPLATE** SERIES

BRAZED PLATE HEAT EXCHANGER SPECIFICATION

Applications



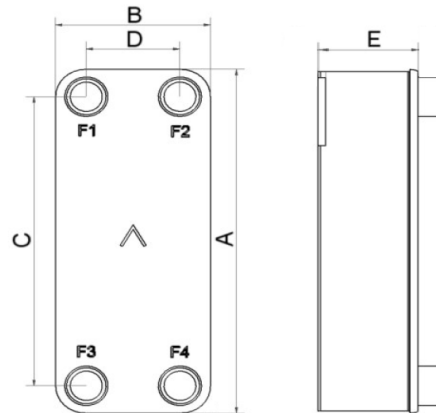
Solar Water Heating



Technical Specifications:

SUNPLATE	
Plate Material:	ANSI 316 L Stainless Steel
Brazing Material:	Copper
Wall configuration:	Single or Double Vented
Complying with Standards:	NSF ANSI 61 AHRI
Design Pressure:	450 PSIG
Warranty Applicable Fluids:	Water & Propylene Glycol

Dimensions:



Plumbing Configuration:

F1: Solar Inlet
F2: Domestic Water Outlet
F3: Solar Outlet
F4: Domestic Water Inlet

Models:

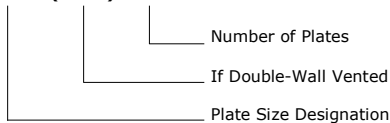
Port Size (in)

	A	B	C	D	Max Flow	E	Soldered	Threaded
SP14	7.6	3.1	6.1	1.6	18 gpm	0.39+0.09NP*	7/8"	3/4"
SP31	12	5	9.8	2.8	40 gpm	0.49+0.09NP	1 1/8"	1"
SP110	20.9	9.8	17.9	6.9	75 gpm	0.51+0.09NP	1 5/8"	1 1/2"
SP14 DW	7.9	3.1	6.5	1.7	20 gmp	0.30+0.093NP	7/8"	3/4"
SP31 DW	11.3	4.8	9.1	2.7	58 gmp	0.35+0.09NP	1 1/8"	1"
SP110 DW	18.2	10	14.9	6.7	255 gpm	0.50+0.08NP	1 5/8"	2"

*NP: Number of plates

Part Number Legend:

SP# # (DW)-XX



Example:

SP31DW-20

Is a SunPlate 31 double wall heat exchanger with 20 plates.

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



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General:

SunEarth offers brazed plate exchangers for efficient solar heating applications. The individual plates with the unit are embossed with a chevron pattern that creates a lattice of interwoven flow channels promoting turbulence. The small footprint of our brazed plate heat exchangers makes is economical option to obtain heat transfer in indirect systems. Units are available in 10 plate increments and come standard with male NPT fittings (sweat fittings may be custom ordered).

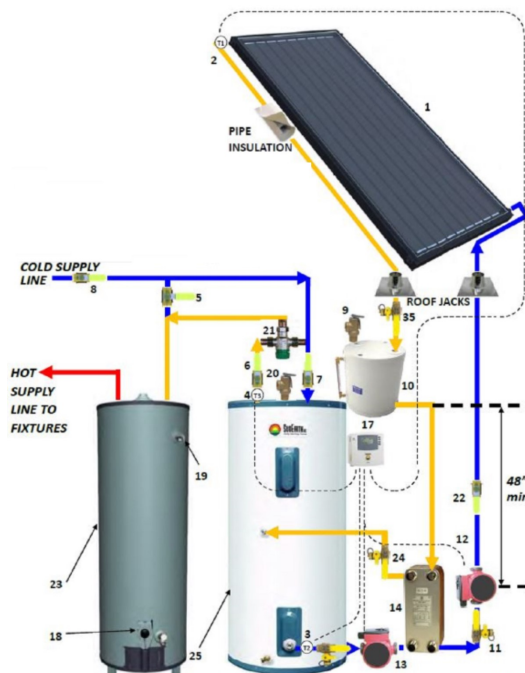
Heat Exchanger Pressure Drop						
Number of Plates	10	20	30	40	50	60
SP14	2.54, 2.69	4.70, 4.91	6.08, 6.29	7.11, 7.27	7.80, 7.92	N/A
SP31	2.51, 5.66	5.38, 5.68	7.07, 7.46	9.05, 9.55	10.83, 11.38	12.46, 13.04
SP110	4.97, 5.27	9.26, 9.80	13.19, 13.94	16.81, 17.72	20.26, 21.15	23.21, 24.37
SP110 DW	6.11, 6.48	11.47, 12.16	16.54, 17.55	21.30, 22.77	26.25, 27.88	30.94, 32.45

C_v (Solar Domestic), solar taken to be 30% 1by volume propylene glycol

Domestic Water Heating Application Heat Exchanger Fluid Volume (Gallon) Solar Fluid Side Only							
Number of Plates	10	20	30	40	50	60	70
SP14	0.03	0.05	0.08	0.10	0.13	0.15	0.18
SP31	0.07	0.14	0.21	0.28	0.35	0.42	0.49
SP110	0.26	0.52	0.78	1.04	1.30	1.56	1.82
SP14DW	0.03	0.06	0.09	0.12	0.15	0.18	0.21
SP31 DW	0.06	0.12	0.18	0.24	0.30	0.36	0.42
SP110 DW	0.22	0.43	0.65	0.86	1.08	1.29	1.51

Heat Exchanger Model (#of Plates)			
Gross Area Of SunEarth Array (ft ²)	SP14	SP31	SP110X
163.6	10		
204.5	20		
286.3	20	20	
327.2	30	20	
409	30	30	
449.9	40	30	
490.8		30	
531.7		40	
572.6-613.5		40	20
654.4-777.1		50	30
818-858.9		60	30
899.8-940.7			30
981.6-1186.1			40
1227-1267.9			40
1308.8-1513.3			50
1554.2-1636			60
Same for DW Add 10 for DW			

Heat Exchanger Placement:



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