


<p>SOLAR COLLECTOR CERTIFICATION AND RATING</p>  <p>SRCC OG-100</p>	<p><u>CERTIFIED SOLAR COLLECTOR</u></p> <p>SUPPLIER: American Solar Works Holdings 295 Princeton Hightstown Road, Unit 251 West Windsot, NJ 08550 USA</p> <p>MODEL: American Solar Works ASW-58A COLLECTOR TYPE: Tubular CERTIFICATION #: 100-2007-028A</p>
---	--

COLLECTOR THERMAL PERFORMANCE RATING							
Megajoules Per Panel Per Day				Thousands of Btu Per Panel Per Day			
CATEGORY (Ti-Ta)	CLEAR DAY 23 MJ/m ² ·d	MILDLY CLOUDY 17 MJ/m ² ·d	CLOUDY DAY 11 MJ/m ² ·d	CATEGORY (Ti-Ta)	CLEAR DAY 2000 Btu/ft ² ·d	MILDLY CLOUDY 1500 Btu/ft ² ·d	CLOUDY DAY 1000 Btu/ft ² ·d
A (-5°C)	37	28	19	A (-9°F)	35	26	18
B (5°C)	35	26	17	B (9°F)	33	25	16
C (20°C)	33	24	15	C (36°F)	31	23	14
D (50°C)	28	19	10	D (90°F)	27	18	10
E (80°C)	22	14	5	E (144°F)	21	13	5

A-Pool Heating (Warm Climate) B-Pool Heating (Cool Climate) C-Water Heating (Warm Climate) D-Water Heating (Cool Climate) E-Air Conditioning

Original Certification Date:

COLLECTOR SPECIFICATIONS

Gross Area:	3.518 m ²	37.87 ft ²	Net Aperture Area:	2.865 m ²	30.84 ft ²
Dry Weight:	74.5 kg	164 lb	Fluid Capacity:	1.5 l	0.4 gal
Test Pressure:	600 kPa	87 psig			

COLLECTOR MATERIALS

Frame:	Stainless Steel
Cover (Outer):	Glass Vacuum Tube
Cover (Inner):	None
Absorber Material:	Tube - Copper / Plate - Aluminum
Absorber Coating:	Aluminum Nitride
Insulation (Side):	Vacumn
Insulation (Back):	Vacumn

PRESSURE DROP

Flow		Δ P	
ml/s	gpm	Pa	in H ₂ O
20	0.32	34	0.14
50	0.79	186	0.75
80	1.27	460	1.85

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P) = Ti-Ta]				<u>Y Intercept</u>	<u>Slope</u>	
S I Units:	$\eta = 0.4772$	$-0.9374 (P)/I$	$-0.0066 (P)^2/I$	0.4806	-1.3337	W/m ² ·°C
I P Units:	$\eta = 0.4772$	$-0.1652 (P)/I$	$-0.0006 (P)^2/I$	0.4806	-0.235	Btu/hr·ft ² ·°F

Incident Angle Modifier [(S) = 1/cos θ - 1, 0° ≤ θ ≤ 60°]	Model Tested:	ASW-58A
$K_{arr} = 1.0$	Test Fluid:	Water
$+0.9638 (S)$	Test Flow Rate:	71 ml/s 1.13 gpm
$-1.1856 (S)^2$		
$K_{arr} = 1.0$		
$-0.27 (S)$		
$(Linear Fit)$		

REMARKS: Tested with long axis of tubes oriented north-south. IAM perpendicular to the tubes is listed above. IAM parallel to the tubes = 1.0 - 0.33(S)