SOLAR COLLECTOR CERTIFICATION AND RATING

SRCC OG-100

CERTIFIED SOLAR COLLECTOR

SUPPLIER: **Beijing Sunda Solar Energy Technology Co Ltd**
No. 3 Hua Yuan Road
Haidian District
Beijing, 100083

MODEL: SUNDA SEIDO1-16
COLLECTOR TYPE: Tubular
CERTIFICATION #: 100-2004-001B

COLLECTOR THERMAL PERFORMANCE RATING

Megajoules Per Panel Per Day			
CATEGORY (Ti-Ta)	CLEAR DAY 23 MJ/m²·d	MILDLY CLOUDY 17 MJ/m²·d	CLOUDY DAY 11 MJ/m²·d
A (-5 °C)	43	33	23
B (5 °C)	41	31	21
C (20 °C)	37	27	17
D (50 °C)	32	22	12
E (80 °C)	26	16	6

Thousands of Btu Per Panel Per Day			
CATEGORY (Ti-Ta)	CLEAR DAY 2000 Btu/ft²·d	MILDLY CLOUDY 1500 Btu/ft²·d	CLOUDY DAY 1000 Btu/ft²·d
A (-9 °F)	41	31	21
B (9 °F)	39	29	19
C (36 °F)	35	26	16
D (90 °F)	30	21	11
E (144 °F)	25	15	6

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: March 4, 2004

COLLECTOR SPECIFICATIONS

Gross Area:	3.994	m^2	42.99	ft^2	**Net Aperture Area:**	3.619	m^2	38.96	ft^2
Dry Weight:	100.2	kg	221	lb	**Fluid Capacity:**	1.1	l	0.3	gal
Test Pressure:	1000	kPa	145	psig	**Max. Oper. Temp.:**	120	°C	248	°F

COLLECTOR MATERIALS

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

PRESSURE DROP

Flow		Δ P	
ml/s	**gpm**	**Pa**	**in H_2O**
0	0.00	0	0.00
0	0.00	0	0.00
0	0.00	0	0.00

TECHNICAL INFORMATION

Efficiency Equation [NOTE: (P) = Ti-Ta]

							Y Intercept	Slope	
S I Units:	η =	0.526	-1.3253	(P)/I	-0.0042	$(P)^2/I$	0.529	-1.697	$W/m^2 \cdot °C$
I P Units:	η =	0.526	-0.2336	(P)/I	-0.0004	$(P)^2/I$	0.529	-0.299	$Btu/hr \cdot ft^2 \cdot °F$

Incident Angle Modifier [(S) = 1/cos θ - 1, 0°≤ θ ≤60°]

$K_{\alpha\tau}$ =	1.0	+0.3023	(S)	-0.3057	$(S)^2$
$K_{\alpha\tau}$ =	1.0	0.00	(S)	(Linear Fit)	

Model Tested: 2004001A
Test Fluid: Water
Test Flow Rate: 36 ml/s 0.57 gpm

REMARKS: Collector tested with long axis of tubes oriented north-south. IAM perpendicular to the tubes is listed above. IAM parallel to the tubes = 1.0 - .08(S) or 1.0 + 0.0126(S) - 0.094(S)^2