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| SOLAR COLLECTOR CERTIFICATION AND RATING  SRCC OG-100 | CERTIFIED SOLAR COLLECTOR SUPPLIER: Roth Industries, Inc. PO Box 245 Syracuse, NY 13211 USA MODEL: Heliostar 252 COLLECTOR TYPE: Glazed Flat-Plate CERTIFICATION#: 2008003A |
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| COLLECTOR THERMAL PERFORMANCE RATING | | | | | | | |
|---|-----------|---------------|------------|------------------------------------|-----------|---------------|------------|
| Megajoules Per Panel Per Day | | | | Thousands of BTU Per Panel Per Day | | | |
| CATEGORY | CLEAR DAY | MILDLY CLOUDY | CLOUDY DAY | CATEGORY | CLEAR DAY | MILDLY CLOUDY | CLOUDY DAY |
| A (-5 °C) | 38.6 | 29.1 | 19.6 | A (-9 °F) | 36.6 | 27.5 | 18.6 |
| B (5 °C) | 35.5 | 25.9 | 16.5 | B (9 °F) | 33.6 | 24.6 | 15.6 |
| C (20 °C) | 30.5 | 21.1 | 11.9 | C (36 °F) | 28.9 | 20.0 | 11.2 |
| D (50 °C) | 20.7 | 12.1 | 3.9 | D (90 °F) | 19.6 | 11.5 | 3.7 |
| E (80 °C) | 11.6 | 4.1 | 0.0 | E (144 °F) | 11.0 | 4.1 | 0.0 |

Original Certification Date: 20-AUG-09

COLLECTOR SPECIFICATIONS

Gross Area: 2.528 m² 27.21 ft²
Dry Weight: 38.1 kg 84. lb
Test Pressure: 1103. KPa 160. psg

Net Aperature Area: 2.29 m² 24.65 ft²
Fluid Capacity: 1.5 liter 0.4 gal

COLLECTOR MATERIALS

Frame: Polycarbonate
Cover (Outer): Low Iron Tempered Glass
Cover (Inner): None
Absorber Material: Tube - Copper Tube on Aluminum / Plate - Aluminum
Absorber Coating: Selective Coating
Insulation Side: Rock Wool
Insulation back: Rock Wool

Pressure Drop

| Flow | | ΔP | |
|-------|------|---------|---------------------|
| ml/s | gpm | gpm | in H ₂ O |
| 20.00 | 0.32 | 349.00 | 1.40 |
| 50.00 | 0.79 | 1174.0 | 4.7 |
| 80.00 | 1.27 | 2359.00 | 9.48 |

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Taj]

S I UNITS: $\eta = 0.7311 - 3.13000 (P)/I - 0.01261 (P)^2/I$
I P UNITS: $\eta = 0.7311 - 0.5513 (P)/I - 0.0012 (P)^2/I$

Y INTERCEPT

0.7

SLOPE-3.9 W/m².°C-0.7 Btu/hr.ft².°F**Incident Angle Modifier [(S)=1/cosθ - 1, 0°<θ<=60°]**

K_a = 1 -0.126 (S) -0.201 (S)²
K_a = 1 -0.34 (S) Linear Fit

Model Tested:

2008003A

Test Fluid:

Water

Test Flow Rate:

50 ml/s 0.79 gpm

REMARKS:

August, 2009

Certification must be renewed annually, For current status contact:

SOLAR RATING & CERTIFICATION CORPORATION

c/o FSEC ♦ 1679 Clearlake Road ♦ Cocoa, FL 32922 ♦ (321) 638-1537 ♦ Fax (321) 638-1010

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