

CERTIFIED SOLAR COLLECTOR

SOLAR COLLECTOR
CERTIFICATION AND RATING



SRCC OG-100

SUPPLIER:

Lochinvar Corporation
300 Maddox Simpson Pkwy
Lebanon, TN 37090
USA

MODEL:

SCH090

COLLECTOR TYPE: Lochinvar/TiSun
Glazed Flat-Plate

CERTIFICATION#: 2010061A

COLLECTOR THERMAL PERFORMANCE RATING

| Megajoules Per Panel Per Day | | | | Thousands of BTU Per Panel Per Day | | | |
|------------------------------|-----------|---------------|------------|------------------------------------|-----------|---------------|------------|
| CATEGORY (Ti-Ta) | CLEAR DAY | MILDLY CLOUDY | CLOUDY DAY | CATEGORY (Ti-Ta) | CLEAR DAY | MILDLY CLOUDY | CLOUDY DAY |
| A (-5 °C) | 115.8 | 87.6 | 59.6 | A (-9 °F) | 109.7 | 83.0 | 56.4 |
| B (5 °C) | 105.4 | 77.1 | 49.2 | B (9 °F) | 99.9 | 73.1 | 46.6 |
| C (20 °C) | 89.2 | 61.6 | 34.1 | C (36 °F) | 84.5 | 58.3 | 32.3 |
| D (50 °C) | 57.4 | 32.5 | 9.1 | D (90 °F) | 54.4 | 30.8 | 8.6 |
| E (80 °C) | 28.0 | 7.7 | 0.0 | E (144 °F) | 26.6 | 7.3 | 0.0 |

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: 30-AUG-10

COLLECTOR SPECIFICATIONS

| | | | | | |
|-----------------------|----------------------|-----------------------|----------------------------|---------------------|-----------------------|
| Gross Area: | 8.076 m ² | 86.93 ft ² | Net Aperature Area: | 7.04 m ² | 75.79 ft ² |
| Dry Weight: | 186.0 kg | 410. lb | Fluid Capacity: | 7.3 liter | 1.9 gal |
| Test Pressure: | 1103. KPa | 160. psg | | | |

COLLECTOR MATERIALS

| | |
|---------------------------|--|
| Frame: | Aluminum |
| Cover (Outer): | Low Iron Tempered Glass |
| Cover (Inner): | None |
| Absorber Material: | Tube - Copper / Plate - Aluminum Sheet |
| Absorber Coating: | Selective Vapor Deposition |

Pressure Drop

| Flow | | ΔP | |
|-------|------|---------|---------------------|
| ml/s | gpm | Pa | in H ₂ O |
| 20.00 | 0.32 | 266.00 | 1.07 |
| 50.00 | 0.79 | 965.0 | 3.9 |
| 80.00 | 1.27 | 2024.00 | 8.13 |

Insulation Side: Mineral Wool
Insulation Back: Rigid Foam

TECHNICAL INFORMATION

| | | | |
|---|---|--------------------|----------------------------------|
| Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Taj] | | Y INTERCEPT | SLOPE |
| S I | $\eta = -3.25080 (P)/I - 0.01198 (P)^2/I$ | 0.714 | -3.960 W/m ² .°C |
| UNITS: | 0.708 | | |
| I P | $\eta = -0.57263 (P)/I - 0.00117 (P)^2/I$ | 0.714 | 0.698 Btu/hr.ft ² .°F |
| UNITS: | 0.708 | | |

| | | |
|--|------------------------|--|
| Incident Angle Modifier [(S)=1/cosθ - 1, 0°<θ≤60°] | Model Tested: | 2007052A |
| Kα = 1 | Test Fluid: | Water |
| 0.005 (S) -0.244 (S) ² | Test Flow Rate: | 2.0 ml/s.m ² 0.0029 gpm/ft ² |
| Kα = 1 | | |
| -0.25 (S) Linear Fit | | |

REMARKS:

September, 2010
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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