

**SOLAR COLLECTOR
CERTIFICATION AND RATING**



CERTIFIED SOLAR COLLECTOR

SUPPLIER: **Solarhot**
2800 Perimeter Park Dr. Suite A, PO Box 1154
Morrisville, NC 27560 USA

MODEL: SOLARHOT S-C-771D26

COLLECTOR TYPE: Glazed Flat-Plate

CERTIFICATION#: 2010038A

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)	39.6	29.9	20.4	A (-9 °F)	37.5	28.4	19.3
B (5 °C)	35.9	26.3	16.7	B (9 °F)	34.0	24.9	15.8
C (20 °C)	30.3	20.9	11.6	C (36 °F)	28.7	19.8	11.0
D (50 °C)	19.9	11.2	3.3	D (90 °F)	18.9	10.6	3.1
E (80 °C)	10.6	3.4	0.0	E (144 °F)	10.0	3.2	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: 11-MAR-11

COLLECTOR SPECIFICATIONS

Gross Area: 2.446 m² 26.33 ft²
Dry Weight: 44.0 kg 97. lb
Test Pressure: 1103. KPa 160. psig

Net Aperture Area: 2.26 m² 24.27 ft²
Fluid Capacity: 3.0 liter 0.8 gal

COLLECTOR MATERIALS

Frame: Aluminum
Cover (Outer): Tempered glass
Cover (Inner): 92.2

Pressure Drop

Flow		ΔP	
ml/s	gpm	Pa	in H ₂ O
20.00	0.32	52.34	0.21
50.00	0.79	231.4	0.9
80.00	1.27	531.23	2.14

Absorber Material: Tube - Copper / Plate - Aluminum

Insulation Side: Foam

Absorber Coating: Selective coating

Insulation Back: foam, fiber

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta] Y INTERCEPT SLOPE

SI Units: η = 0.726 -3.77940 (P)/l -0.00859 (P)²/l 0.729 -4.264 W/m².°C

IP Units: η = 0.726 -0.66574 (P)/l -0.00084 (P)²/l 0.729 -0.751 Btu/hr.ft².°F

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

Kτα = 1 0.022 (S) -0.154 (S)²

Kτα = 1 -0.14 (S) Linear Fit

Model Tested: 20100038A

Test Fluid: Water

Test Flow Rate: 37.7 ml/s.m² 0.0555 gpm/ft²

REMARKS:

June, 2011

Certification must be renewed annually, For current status contact:

**SOLAR COLLECTOR
CERTIFICATION AND RATING**



CERTIFIED SOLAR COLLECTOR

SUPPLIER: **Solarhot**
2800 Perimeter Park Dr. Suite A, PO Box 1154
Morrisville, NC 27560 USA

MODEL: SOLARHOT S-C-771D32

COLLECTOR TYPE: Glazed Flat-Plate

CERTIFICATION#: 2010038B

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)	47.6	36.0	24.5	A (-9 °F)	45.1	34.1	23.2
B (5 °C)	43.2	31.6	20.1	B (9 °F)	40.9	29.9	19.0
C (20 °C)	36.5	25.2	13.9	C (36 °F)	34.6	23.9	13.2
D (50 °C)	24.0	13.5	4.0	D (90 °F)	22.7	12.8	3.8
E (80 °C)	12.8	4.1	0.0	E (144 °F)	12.1	3.9	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: 26-APR-11

COLLECTOR SPECIFICATIONS

Gross Area: 2.928 m² 31.52 ft²
Dry Weight: 44.0 kg 97. lb
Test Pressure: 1103. KPa 160. psig

Net Aperture Area: 2.71 m² 29.20 ft²
Fluid Capacity: 3.6 liter 1.0 gal

COLLECTOR MATERIALS

Frame: Aluminum
Cover (Outer): Tempered glass
Cover (Inner): 92.2

Pressure Drop

Flow		ΔP	
ml/s	gpm	Pa	in H ₂ O

Absorber Material: Tube - Copper / Plate - Aluminum

Insulation Side: Foam

Absorber Coating: Selective coating

Insulation Back: foam, fiber

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta] Y INTERCEPT SLOPE

SI Units: η = 0.729 -3.78740 (P)/l -0.00863 (P)²/l 0.733 -4.305 W/m².°C

IP Units: η = 0.729 -0.66715 (P)/l -0.00084 (P)²/l 0.733 -0.758 Btu/hr.ft².°F

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

Kτα = 1 0.022 (S) -0.154 (S)²
Kτα = 1 -0.14 (S) Linear Fit

Model Tested: 20100038A

Test Fluid: Water

Test Flow Rate: 31.5 ml/s.m² 0.0464 gpm/ft²

REMARKS:

June, 2011

Certification must be renewed annually, For current status contact:

**SOLAR COLLECTOR
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CERTIFIED SOLAR COLLECTOR

SUPPLIER: **Solarhot**
2800 Perimeter Park Dr. Suite A, PO Box 1154
Morrisville, NC 27560 USA

MODEL: SOLARHOT S-C-771D40

COLLECTOR TYPE: Glazed Flat-Plate

CERTIFICATION#: 2010038C

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)	59.6	45.1	30.6	A (-9 °F)	56.4	42.7	29.0
B (5 °C)	54.1	39.6	25.2	B (9 °F)	51.2	37.5	23.8
C (20 °C)	45.7	31.5	17.5	C (36 °F)	43.3	29.9	16.6
D (50 °C)	30.1	17.0	5.0	D (90 °F)	28.5	16.1	4.8
E (80 °C)	16.1	5.2	0.0	E (144 °F)	15.2	5.0	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: 26-APR-11

COLLECTOR SPECIFICATIONS

Gross Area: 3.660 m² 39.40 ft²
Dry Weight: 44.0 kg 97. lb
Test Pressure: 1103. KPa 160. psig

Net Aperture Area: 3.40 m² 36.56 ft²
Fluid Capacity: 3.6 liter 1.0 gal

COLLECTOR MATERIALS

Frame: Aluminum
Cover (Outer): Tempered glass
Cover (Inner): 92.2

Pressure Drop

Flow		ΔP	
ml/s	gpm	Pa	in H ₂ O

Absorber Material: Tube - Copper / Plate - Aluminum

Insulation Side: Foam

Absorber Coating: Selective coating

Insulation Back: foam, fiber

TECHNICAL INFORMATION

Efficiency Equation [NOTE: Based on gross area and (P)=Ti-Ta] Y INTERCEPT SLOPE

SI Units: η = 0.731 -3.78280 (P)/l -0.00865 (P)²/l 0.734 -4.301 W/m².°C

IP Units: η = 0.731 -0.66634 (P)/l -0.00085 (P)²/l 0.734 -0.758 Btu/hr.ft².°F

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

Kτα = 1 0.022 (S) -0.154 (S)²
Kτα = 1 -0.14 (S) Linear Fit

Model Tested: 20100038A

Test Fluid: Water

Test Flow Rate: 25.2 ml/s.m² 0.0371 gpm/ft²

REMARKS:

June, 2011

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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