

# SPP-Monarch Solar Flat Plate Collector

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- Ultrasonically Welded Aluminum Fins*
- SRCC Certified*
- Blue Sputtered Absorber Coating*
- Polyurethane Insulation*



The SPP-Monarch is a high performance solar flat plate collector.

These collectors are used to produce domestic hot water, and in space heating systems. They are available in various sizes.

Buy American Compliant, and SRCC certified, these collectors are perfect for residential and commercial applications alike.

- **Buy American Compliant:** The SPP-Monarch collector complies with the Buy American Act (BAA) and American Recovery & Reinvestment Act (ARRA), which is a requirement on many commercial and government projects
- **SRCC Certified:** Collector is OG-100 certified, allowing the SPP-Monarch collector to qualify for Federal, State, and local incentives, such as rebates and tax credits
- **Ultrasonically Welded Aluminum Fins:** Ultrasonic metal welding allows for a reliable, long lasting, durable collector, able to withstand thermal stress and all types of environmental conditions
- **Blue Sputtered Absorber Coating:** The newest absorber technology, this coating allows for the highest absorption rate and the lowest emissions, ensuring the highest performance and efficiency
- **Polyurethane Insulation:** High quality, efficient, and durable, polyurethane insulation allows for the best heat retention to ensure your solar flat plate collector gives you reliable and efficient heat production all winter long

# SPP-Monarch Specifications

Size	4' x 6.5'	4' x 8'	4' x 10'
Length	80.3"	96"	120"
Width	47.2"	47.2"	47.2"
Depth	3.9"	3.9"	3.9"
Weight	98lbs	121lbs	137lbs
Gross Front Area	26.4sf	31.5sf	39.4sf
Aperture	24.5sf	30.0sf	36.7sf
Volumetric Fluid Capacity	1.0gl	1.1gl	1.2gl

Enclosure Material	Black Anodized Aluminum
Insulation	1" Polyisocyanurate, 1" glass wool + radiant barrier
Gaskets	EPDM Rubber
Glazing	4mm low iron tempered glass
Glass Transmittance	91.6%
Absorber Coating	Vapor Deposition Selective Coating
Absorptivity	95%
Emissivity	5%

Absorber Type	Harp Style
Absorber Material	Copper Waterway with Aluminum Fin
Number of Flow Tubes	11
Flow Pattern	Parallel
Riser Tube	½" Outside Diameter
Header Tube	1 1/8" Outside Diameter
Riser Spacing	3.89"
Recommended Flow Rate	0.8 – 4.5gpm
Pressure Rating	160psi



## SRCC Certification Data: Collector Thermal Performance Rating

BTU per Panel Per Day: 4' x 6.5'			
Category (Ti-Ta)	Clear Day 2000 Btu/ft2/day	Mildly Cloudy 1500 Btu/ft2/day	Cloudy Day 1000 Btu/ft2/day
A (-9F)	40,700	30,800	21,000
B (9F)	35,900	26,000	16,200
C (36F)	29,000	19,300	9,800
D (90F)	16,300	7,500	900
E (144F)	5,600	200	0

BTU per Panel Per Day: 4' x 8'			
Category (Ti-Ta)	Clear Day 2000 Btu/ft2/day	Mildly Cloudy 1500 Btu/ft2/day	Cloudy Day 1000 Btu/ft2/day
A (-9F)	45,100	34,100	23,200
B (9F)	40,900	29,900	19,000
C (36F)	34,600	23,900	13,200
D (90F)	22,700	12,800	3,800
E (144F)	12,100	3,900	0

BTU per Panel Per Day: 4' x 10'			
Category (Ti-Ta)	Clear Day 2000 Btu/ft2/day	Mildly Cloudy 1500 Btu/ft2/day	Cloudy Day 1000 Btu/ft2/day
A (-9F)	56,400	42,700	29,000
B (9F)	51,500	37,500	23,800
C (36F)	43,300	29,900	16,600
D (90F)	28,500	16,100	4,800
E (144F)	15,200	5,000	0

(Ti) – Temperature Inlet: Refers to temperature of fluid entering manifold.  
 (Ta) – Temperature Ambient: Refers to the ambient temperature, or the outside air temperature.  
 (Ti-Ta) – Refers to the inlet fluid temperature subtracted from the outside ambient temperature. For example, if the temperature entering the manifold is 100F, and the outside air temperature is 80F, the Ti-Ta would be 20F.

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