

Solar Spectrum Collectors

with exclusive selective "Crystal Clear" inside



Glazing:

Low-Iron tempered glass, exclusively using our "High-T" tempered glass, with a total solar energy transmission of 90%.

Collector Frame and Battens:

Type 6063-T6 extruded aluminum frame and battens with electrostatic bronze plate finish that facilitates long life and strength.

Insulation:

Polyisocyanurate foam board insulation. Foil-faced, glass fiber-reinforced, rigid board Thermax sheathing (1-1/4" in the bed / 3/4" in the sidewalls).

Mounting Hardware:

The variable "Quick Lock" mounting hardware reduces mounting time and makes it simple for anyone to install. The Quick Lock System allows the highest flexibility in mounting and is tested to wind load conditions of 195 mph. Mounting possibilities include: Pitched roof, Flat roof, Ground, Balcony, and Facade mounting.

Design Life: 30 Years

Warranty: 10 Years

Working Pressure: 165 PSI

Flow Rate: 0.5 to 1.8 GPM (recommended)

Absorber Plate:

Manufactured by Thermafin™ Mfg., a 100% copper absorber plate, the fin and the riser tube are molecularly bonded by high-frequency forge welding.

Absorber Coating:

Exclusively by Thermafin™ Mfg., a Selective "Crystal Clear" Coating.
 $\alpha = 0.96$ $\epsilon = 0.08$

Gasket Grommets:

A UV durable EPDM, U-channel gasket with molded corners which prohibits water penetration and assures long life. Extruded Silicone Grommet with 1-1/8" Bore.

Corner Bracket:

Architectural aluminum angles inside with aircraft-grade pin grip rivets to ensure high stability.

Fasteners:

5056 Aluminum rivets secure the backsheet. Batten screws are 18-8 SS, 10-24 x 3/8", hex head screws, and black oxide coated.

Backsheet:

Type 3105-H14, 0.019" stucco embossed aluminum sheet (bronze) pop-riveted to aluminum frame.

Specifications

Collector	FP-26SC	FP-32SC	FP-40SC
Length (in)	77.187	97.187	121.187
Width (in)	47.187	47.187	47.187
Height (in)	3.137	3.137	3.137
Gross Area (ft²)	25.3	31.8	39.7
Transparent Area (ft²)	23.6	29.9	37.4
Dry Weight (lbs)	90	113	153

Solar Spectrum Collector Ratings

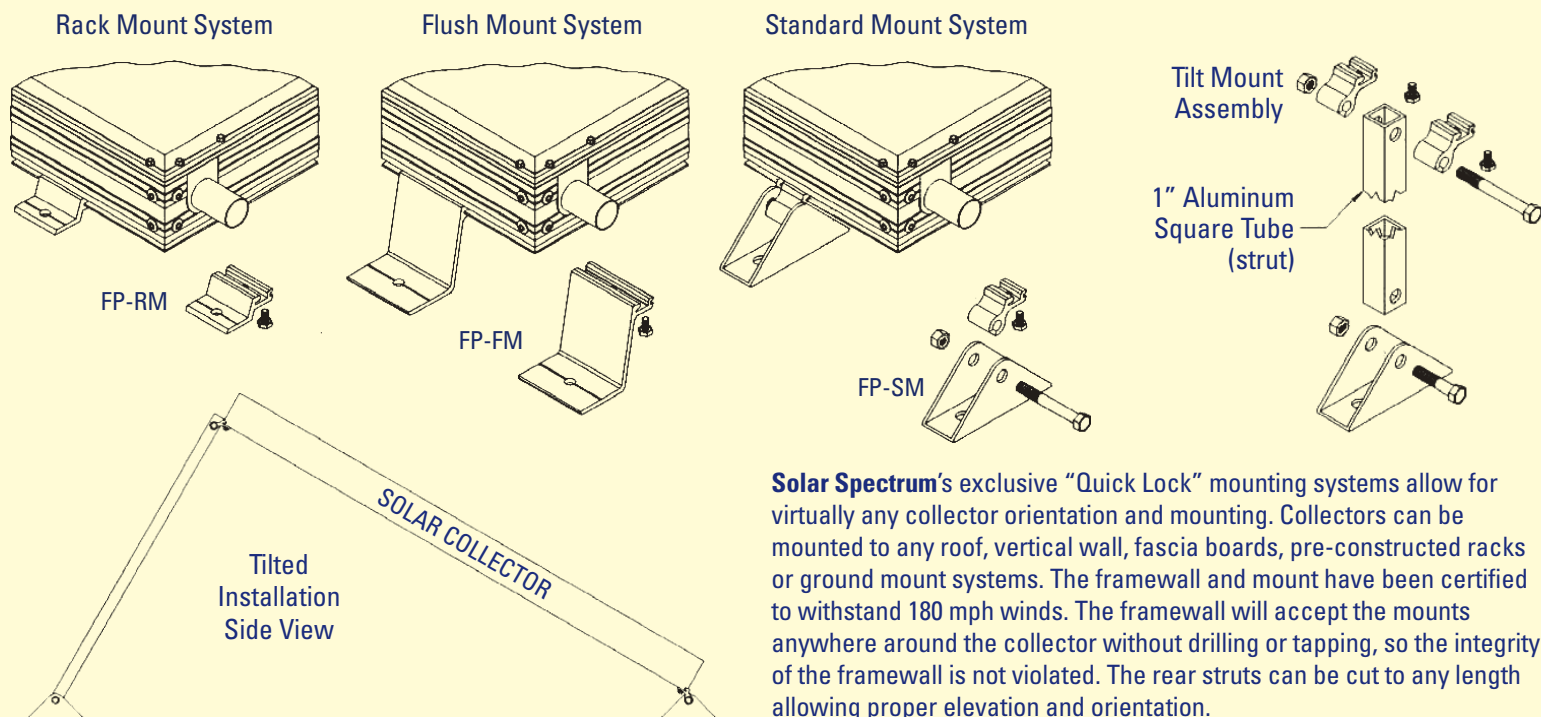
Solar Rating Certification Corp.

Metric (SI) Units / English (Inch-Pound Units)

Model No. ►	FP-26SC			FP-32SC			FP-40SC		
	Kilojoules/Thousands of Btus per panel per day						Megajoules/Thousands of Btus per panel per day		
Weather ► Cate- gory (Ti-Ta) ▼	Clear Day 2000 Btu/ft².d	Mildly Cloudy Day 1500 Btu/ft².d	Cloudy Day 1000 Btu/ft².d	Clear Day 2000 Btu/ft².d	Mildly Cloudy Day 1500 Btu/ft².d	Cloudy Day 1000 Btu/ft².d	Clear Day 2000 Btu/ft².d	Mildly Cloudy Day 1500 Btu/ft².d	Cloudy Day 1000 Btu/ft².d
A (-9F)	35 / 33	26 / 25	18 / 17	44 / 42	33 / 31	23 / 21	55 / 52	41 / 39	28 / 27
B (9F)	32 / 30	23 / 22	15 / 14	40 / 38	29 / 28	19 / 18	50 / 47	36 / 35	23 / 22
C (36F)	27 / 25	18 / 17	10 / 9	33 / 32	23 / 22	13 / 12	42 / 40	29 / 27	16 / 15
D (90F)	16 / 15	8 / 8	2 / 2	20 / 19	11 / 10	2 / 2	25 / 24	13 / 13	3 / 3
E (144F)	6 / 6	1 / 1	—	8 / 7	1 / 1	—	10 / 9	1 / 1	—



Solar Spectrum Collectors Mounting Hardware Options



Solar Spectrum's exclusive "Quick Lock" mounting systems allow for virtually any collector orientation and mounting. Collectors can be mounted to any roof, vertical wall, fascia boards, pre-constructed racks or ground mount systems. The framewall and mount have been certified to withstand 180 mph winds. The framewall will accept the mounts anywhere around the collector without drilling or tapping, so the integrity of the framewall is not violated. The rear struts can be cut to any length allowing proper elevation and orientation.

Engineering Specification

Solar collectors shall be as provided by Heat Transfer Products, Inc.

Model No. _____, and shall be of the glazed, flat plate liquid type. The number of collector for this project is _____ at _____ ft² per panel, equaling a total collector area of _____ ft². Collectors shall be _____" in length, _____" in width, and _____" in height. The enclosure box frame shall be an aluminum extrusion (alloy: 6063-T5) with anodized or electrostatic paint finish, architectural bronze in color. The collector back plate shall be painted, textures aluminum and not less than .019" thick. The collector cover back plate shall be a minimum 1/8", low iron oxide, tempered glass with a minimum transmissivity of 91%. All screws and bolts shall be of 18-8 stainless steel. Gaskets and grommets shall be of silicone or EPDM high temperature rubber. Insulation in the bed of the box shall be non-absorbing, closed cell polyisocyanurate foam board, foil faced on both sides, 1-1/4" thick in a box bed, 5/8" thick in box sides.

Absorber plate shall be of (0.008" thick) corrugated copper fin /copper tube construction welded together using a high-frequency, forged welding process.

Each plate must be factory pressure tested to 90 psig. Fluid passageways must not be less than 1/2" O.D. copper tube. All manifold connections shall be brazed.

Absorber surface shall be selective Crystal Clear™ coated with a minimum absorptivity of 0.96% (96%) and a maximum emissivity of 0.08 (8%).

Collector instantaneous efficiency curve shall not have less than a first order Y- Intercept of 0.06 and a Slope of not more than 0.865 Btu/hr.ft².°F.

The complete collector assembly shall be structurally certified to withstand a wind load of 141 mph or 51 psf.

Collectors shall have a design life of 30 years and shall be warranted for not less than 10 years. Collectors shall be certified by FSEC and SRCC.

Code Approvals

Solar Spectrum Collectors have been designed and constructed to meet major applicable nationwide codes, including the following:

Solar Rating and Certification Corporation SRCC Standard 100 – *Test Methods and Minimum Standards for Certifying Solar Collectors (ASHRAE Std 93-1986)*

Florida Solar Energy Center – *Test Methods and Minimum Standards for Solar Collectors (ASHRAE Std 93-1986)*

Miami Testing Laboratory *Wind Load Test (ASTM E 3300) Certification No. 94-1028.01*

International Association of Plumbing Mechanical Official (IAPMO) *Uniform Solar Energy Code (USEC) File No. S-5038*

International Testing

Bodycote Materials Testing Canada Inc. *Report No. 02-08-0513*

TÜV Bayern Sachen e.V. (DIN 4757) Report No. 28600399

Bundesforschungs – und Prüfzentrum Arsenal ÖNORM M 7714 - *Order No. M 4 015*