

Data Sheet for Black Sun Planetary Solutions Solar Thermal CSP Collector

Black Sun Planetary Solutions has developed a solar collector capable of producing clean, sustainable energy at half the life cycle cost of current state-of-the-art designs. Our collectors can be implemented for use in:

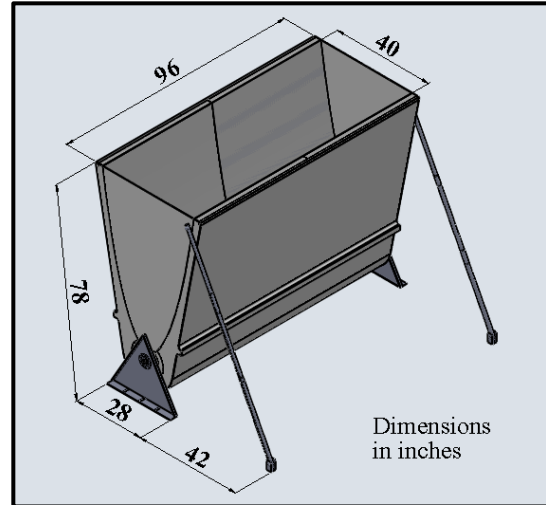
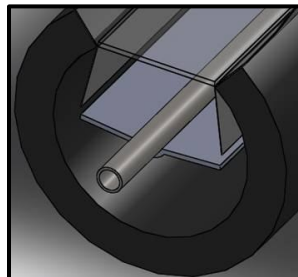
- Existing CSP Trough Installations
- Proposed or Planned CSP Plants
- Hot Water Heating for Apartments or Businesses

Black Sun's patent-pending CSP solution funnels unfocused sunlight down into a cavity, allowing for a larger acceptance angle to capture sunlight and eliminating the need for high-precision sun tracking. Collectors are compatible with a wide range of actuators, provided in-house or by the customer.

The BSPS solar collector is constructed out of rigid foam and thin film mirrors, which are considerably cheaper than the precision glass mirrors and metal frames used in existing CSP collectors. BSPS components are rated to 20 years, with a 30+ year expected lifetime of the structure. Our design is rugged with piping that does not rotate, yielding fewer breakable or moving parts.

The advantages of Black Sun's CSP design translate into increased profit margins for solar power plants, faster return for investors, and ultimately clean energy that competes head-to-head with fossil fuels for low cost.

Full installation and maintenance instructions are provided with the collector and each unit is inspected prior to delivery. Periodic pressure washing of the reflective surfaces is recommended to ensure maximum heat generation.



Collector Specifications

Length of Collector	96"
Height of Collector	78"
Aperture of Collector	40"
Land Area Needed per Collector	8.5' x 8.5'
Max Wind Load	85 mph
Min Concrete Pad Depth for Mounting	6"
Acceptance Angle	10°
Pipe Diameter	1"
Total Weight of Unit	250 lbs. (115 kg)
Energy Flux Captured by Heat Transfer Fluid	450 W/m ²
Power Generated per Collector on a Typical Sunny Day	1100W

Materials

Collector	Polyurethane Foam
Reflector	Thin Film Mirrors
Insulation	Fiberglass
Endcaps	Fiberglass
Piping	Aluminum
Supports	Aluminum & Steel
Glass	Tempered Low-Iron

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