



SOLARBEAM CONCENTRATOR™

MODEL # SB-4.5-4400

Description

The SolarBeam Concentrator is the most efficient solar thermal system available. The SolarBeam uses concentrated solar power (CSP) technology that utilizes a highly reflective anodized aluminum to reflect and concentrate the sunlight onto a focal point.

The SolarBeam Concentrator generates an average of 10.5 kW of heat per hour (35,851 BTUs/hour) and can reduce payback from 15 years to 6 years when used in process heat applications.

Solartron Energy is currently developing the first affordable concentrated photovoltaic module capable of generating up to 3.5 kW of electricity per hour on a 25 x 25 cm (10"x10") surface. This module can be added later to existing SolarBeam Concentrators to produce electricity and hot water.

Sun Tracking

SolarBeam Concentrator's patent-pending dual-axis sun-tracking system utilizes break-through technology to accurately track the sun. The SolarBeam does not require any sensors to locate the sun. Rather it uses a unique celestial algorithm and GPS to track the sun regardless of the season.

Solar Applications

The control system can be programmed to provide a range of temperature settings up to 93° Celsius (200° Fahrenheit) without experiencing heat stagnation.

SolarBeam Concentrator can be used in the following applications:

- Process Heat Generation
- Space Cooling with Absorption Chillers
- Space Heating
- Water Heating



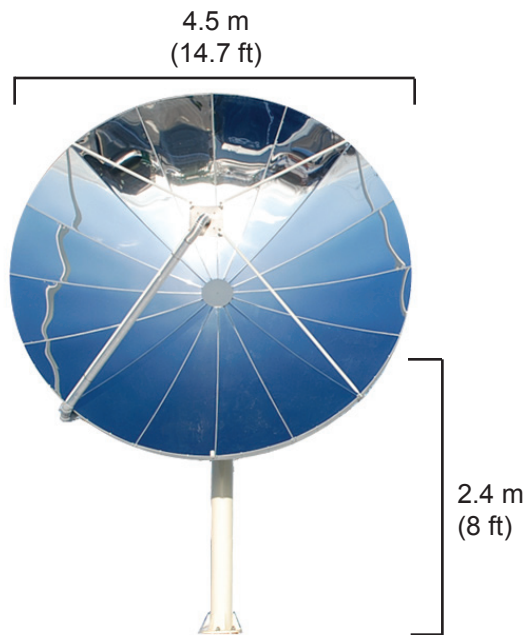
FEATURES

- Peak thermal production of 12 kW per hour
- Dual-axis sun tracking maintains high efficiency throughout the day
- Fast and easy installation with PEX tubing
- Sensors tilt the dish out of the sun to prevent heat stagnation

APPLICATIONS

- Industrial
- Commercial
- Government
- Residential

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HOT WATER PRODUCTION @ 1000 watts / m2

Peak kW	12 kW/hour
Peak BTUs	40,973 BTUs/hour

MATERIAL

Reflector	Anodized Aluminum (90% Reflectance)
Mounting Post	Steel
Weight	482 Kg (1,060 lbs)

POWER CONSUMPTION

Vertical Axis Motor	24W, 2A
Horizontal Axis Motor	12W, 0.5A
Power Back up	UPS Battery



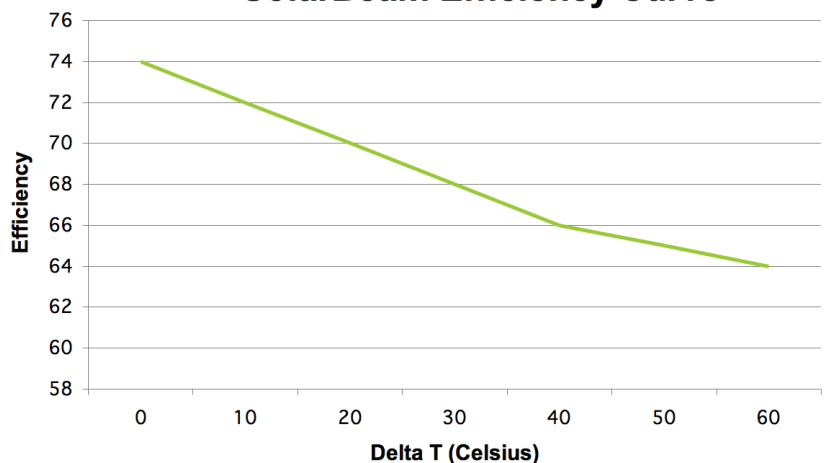
Location: Nova Scotia, Canada
Application: Process Heating at Bottling Plant

PARAMETERS	
Collector Area	15.9 m2 (171 sq. ft)
Optical Efficiency	91%
Tracking	Dual Axis
Temperature Protection	Automatic stow mode
Maximum Absorber Temperature	145° C (293 deg. F)
Maximum fluid temperature of Primary loop	93° C (200 deg. F)
Maximum fluid Temperature of Secondary loop	93° C (200 deg. F)
Maximum Fluid Pressure	(35 PSI)
AC Power Interruption Protection	Automatic Solar Concentrator shut-down to Survival Position (90 deg Vertical Axis).
Heat Transfer Fluid	Propylene Glycol/Water solution (40%/60% to -18 deg. C)
Flow Rate	19 Litres min / (5 Gallons / min)
Power Supply	120V - 240V (24VDC to dish)

DIMENSION & AREA

Reflector diameter	4.5m (14.7 ft)
Focal point distance	2.2m (86.63 inches)
Heat Sink Collector	25.4 cm X 25.4 cm (10" x 10")
Mounting Post	2.4 m (8' ft)

SolarBeam Efficiency Curve



Efficiency based on direct beam solar radiation of 1000 watts/m2

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