

# TECHSER<sup>®</sup>

THE TECHNICAL SERVICE PEOPLE SINCE 1988

**CST H3500**

## **MAXIMUM EFFICIENCY. MINIMUM SPACE.**

- **Highest Heat Conversion. Lowest Footprint.**
- **Made In India. Installed Worldwide.**

**The Most Cost Effective  
Concentrated Solar Thermal Solution**



**QUADSUN**  
SOLAR SOLUTIONS

Winner of CST Excellence Award for Innovation from  
Ministry of New and Renewable Energy, Govt. of India  
and United Nations Development Program

# INSTALLATIONS IN INDIA, EUROPE AND USA



## CST H3500 SYSTEM COMPONENTS

### 1 CHASSIS

- Manufactured with precision laser cut parts
- CED-coated Mild Steel structure
- More than 1000 Hr salt spray life
- Lightweight
- Designed for high wind speeds

### 2 GEARBOX

- Dual Axis tracking
- Independent gear box for Elevation and Azimuth control
- DC stepper motors for precise control
- Compact design & high gear ratio
- Very low torque requirement
- High wind resistive

### 3 REFLECTOR

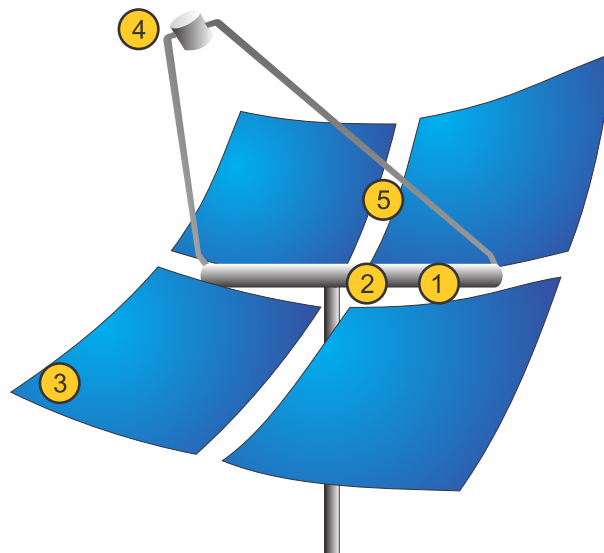
- Low Iron high reflective index mirrors
- Mirrors concentrate and focus energy 600 X
- Each mirror Area Approx. – 1.1 Meter X 1.1 Meter
- Small focal point of 2 Inch X 2 Inch
- Manufactured by world leading solar glass company

### 4 RECEIVER

- Specially designed for maximum heat transfer
- Cavity receiver with minimum thermal losses
- Actively Cooled
- Focal point of the system

### 5 ELECTRONICS

- Tracking controller on each system
- System controller to control the whole array
- Sensors to monitor wind speeds
- Sensors to monitor temperature and flow



CST H3500 delivers maximum productivity at minimal costs, with high performance materials optimized to provide hot water at desired temperature. It ensures ease of installation and reliable thermal output with low footprint. CST H3500 offers the most cost effective solar heating solution available in the market today.

This is enabled by our unique design and production methods that combine modular product features with high reflectivity mirrors which lead to high optical efficiency.

# Wide Range of Applications



PROCESS  
HOT WATER



STEAM  
COOKING



AGRICULTURAL  
DRYING



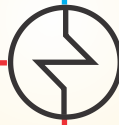
WASTE WATER  
EVAPORATION



SOLAR AIR  
CONDITIONING



THERMAL  
DESALINATION



HEAT  
EXCHANGER

## PEOPLE

Hotels  
Resorts  
Apartments  
Hospitals  
Colleges  
Laundry & Dry Cleaners  
Swimming Pool Heating  
Cooking/Food Preparation  
Space Heating  
Cleaning & Hygiene  
Boiler Pre-Heating



## FOOD

Dairy Industry  
Fruits & Vegetables  
Pasteurization Plants  
Breweries  
Food Processing  
Pharmaceuticals  
Pulp & Paper  
Tea & Tobacco  
Sugar Industries



## PROCESS

Textile Industries  
Leather Industries  
Plastics & Polymers  
Petro Refineries  
Automobile Industries  
Waste Water Management  
Desalination Plants  
Electroplating & Galvanizing  
Wood & Furniture



### TECHSER POWER SOLUTIONS PVT. LTD.

Works: #17/B, Hootagalli Industrial Area, Hootagalli, Mysore-570 018. Phone: 0821-234490  
Regd. Office: "Techser House" #12/1, 5th Cross, MES Ring Road, Sharadambanagar, Bangalore-560 013.  
Phone: 080-28384517, 28384854, Fax: 080-23452646, Direct Marketing Contact: Mobile: 9448990439.

Website: [www.techser.com](http://www.techser.com) Email: [bangalore@techser.com](mailto:bangalore@techser.com)

★ CONCENTRATED SOLAR PRODUCTS ★ SOLAR PCU ★ ON/OFF GRID SOLAR INVERTERS ★ SOLAR PV SOLUTIONS  
★ ONLINE UPS ★ BATTERY CHARGERS ★ VRLA BATTERIES

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# TECHNICAL SPECIFICATIONS

## CST H3500

### THERMAL PERFORMANCE

Thermal power rating	3.8 KW @1000 W/m <sup>2</sup> and 25°C ambient
Optical efficiency	85% based on collector area
First degree losses	0.20 W/m <sup>2</sup> K
Second degree losses	0.001 W/m <sup>2</sup> K <sup>2</sup>
Max temperature	160°C
Max pressure	8 bar

### OPERATING ENVIRONMENT RANGE

Wind speed (tracking)	15 m/s (value is programmable)
Wind speed survival	40 m/s
Ambient temperature	60°C
Humidity	100% RH
Terrain	No constraint (rooftop or ground mount)
Max working fluid pressure	10 bar
Max working fluid temperature	180°C

### SYSTEM PHYSICAL DATA

L x B x H (max)	2.1 x 2.5 x 1.8 m
Weight	90 kg
Mirror surface area	4.4 m <sup>2</sup>
Receiver diameter	90 mm

### SYSTEM INPUTS

Power	24V DC and 50 W
Fluid inputs	3/4" hoses (silicone or EPDM)

### INDIVIDUAL SYSTEM CONTROLS AND SAFETY

Tracking	Optical based, accuracy 0.001° (Always on sun)
Flow switch	Standard 4 ltrs/min (System goes off sun if flow is lower and can be set)
Sun tracking algorithm	NREL based
Wake up and sleep	Fully automatic user setting available

### FIELD CONTROLLER

- Microprocessor based
- Monitors and logs field data
- 4 analog channels and 4 relays
- Grid sensing for power availability
- Intelligent monitoring for individual system health
- Remote monitoring

Exceptionally high efficiency makes CST H3500 the most cost-effective concentrated solar thermal solution.

