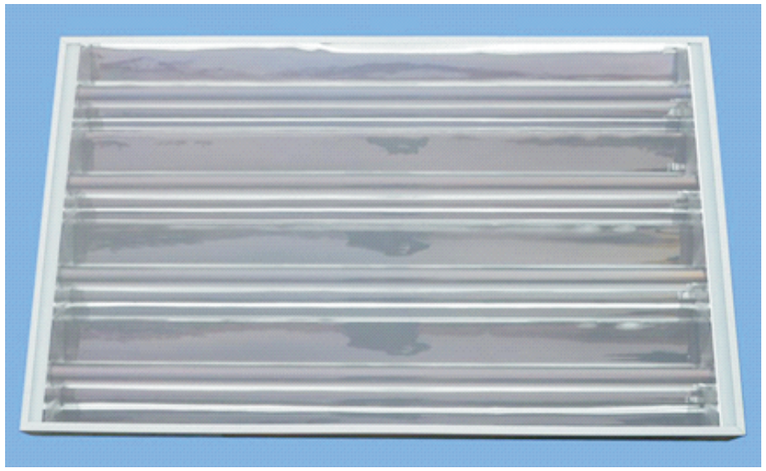
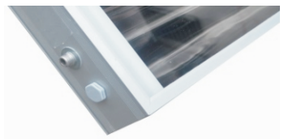
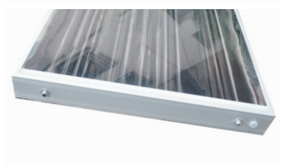
CPC Medium-high temperature flat solar collector

Medium-high temperature flat plate collector uses CPC compound parabolic reflector (commonly known as concentrating reflector), which collects and reflects all light rays from the reflected mirror to the heat absorbing tube. And that instantly generates 200-300 degrees high temperature on the absorbing tubes, which heat the medium inside the heat absorbing tube to 150-200 degrees and transferred to the heat storage device on time.



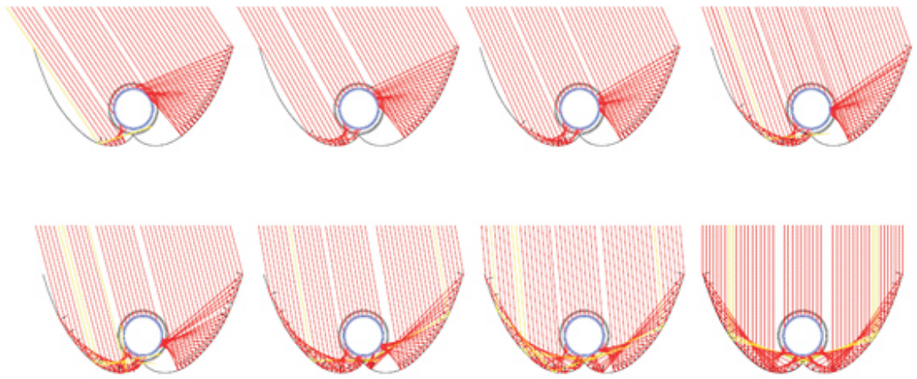


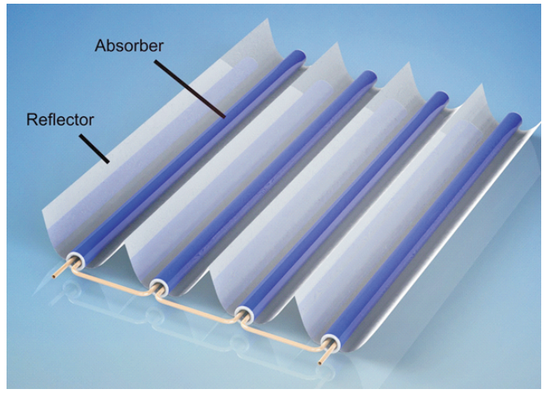


Commonly Flat plate solar collector only can heat water or medium on 70-80 degree. But CPC overcome the limitation and can supply medium-high temperature to expand the application range of the flat collector greatly. At present, CPC type can use for high-temperature hot water, warm-heating, high temperature steam, steam-cooking, Sea water desalination, solar energy air- conditioning and so on

Concentrating Principle

The reflection mirror with CPC composite parabolic surface can focus all lights on heat tube regardless of the light from any angle to the reflector. This design can collect and use solar power maximum and most efficient without tracking and positioning. And that design also assure longest stable working like common flat plate solar collector with 10 years life warranty or more and less maintenance. Following drawings can show the principle:

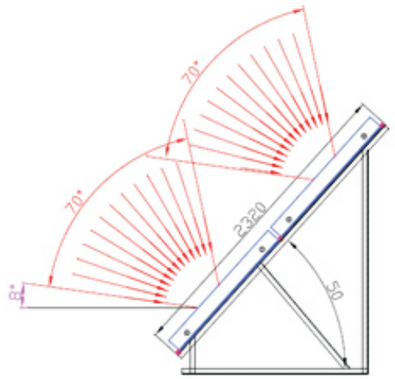


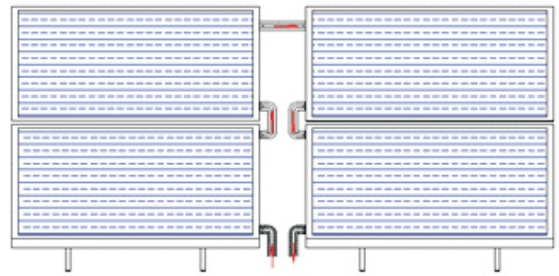


Product Structure

The product is mainly composed of five parts: glass, aluminum alloy frame, thermal insulation, CPC reflector surface, heat absorption elements (high-temperature resistant vacuum tube+metal flow channel), And the core parts picture is as following

Installation Drawing





Product Features:

1.Maximum heating medium temperature up to 200 degrees, suitable for high temperature hot water, steam and warm-heating projects

2.The concentrating effect is superior and the heat loss is small.

3.It can be used in the cold area, even minus 30 degrees. And that should be very perfect to use for room warm-heating or agriculture green house on very cold area.

4.CPC is only special flat plate solar collector with standard size as standard module and easy to install like flat collectors to assemble easily together for many commercial projects.

5.Heat conduction medium circulation is used for energy transmission to utilize heat with max efficiency. And close circulation with heat medium has better efficiency with high pressure and high temperature for heat medium.

Product Parameters

CPC collector	Type		MS-CPC2.0
	Size (L x W x H)（mm）		1850 x 1110 x 116
	Weight (Kg)		43
	Gross Area（m2）		2.05
	Aperture Area（m2）		1.86
	Operating Temperature range		50-200 degree
	Max.temperature		250 degree
	Max.Operating pressure		7 Bar
	Absorber	Vacuum tube	ϕ70mmX1800mm
		Vacuum tube coating	selectivity coating High temperature resistance
		Flow tube material	Aluminium or copper
	Reflector	Material	Aluminium
		Reflector material	Al
		Reflector material protect	UV protect
		Reflector Thickness	0.4mm
		Bending	CPC curve
		Reflectance	95%
System Efficiency	50%-60%		
Heat transfer fluid	Glycol / Water / Antifreezing fluid		
Fluid capacity	0.76L		
Power output	1.1KW /m2/H (800W/M2/H)		
Application	Winter Warm-heating, High-temperature Hot Water, Industrial Steam, Steam-cooking, Sea Water Desalination, Solar Air conditioning, etc.		

Engineering Projects

1. Yumen Warm-heating projects





2. Shanxi Wutai Pharmaceutical Co.,Ltd high temperature hot water projects


3. Oversea Industrial projects


4. Steam heating system projects




5. Beijing Yanqing Factory Concentration and Heat Collection Project