Introduction to Solar Air Conditioning

An ADWEA Showcase Project

CHROMASUN

ADDC Distribution Management Center

Chromasun is proud to be collaborating with the Abu Dhabi Water and Electricity Authority (ADWEA) to showcase our MCT technology at the subsidiary Abu Dhabi Distribution Company (ADDC) Distribution Management Center.

The Distribution Management Center provides management and direct control of ADDC processes and activities. The building is presently air-conditioned by conventional electrically driven screw type chillers which have significant peak power demands on hot days.

Micro-Concentrator (MCT) Thermal Collector

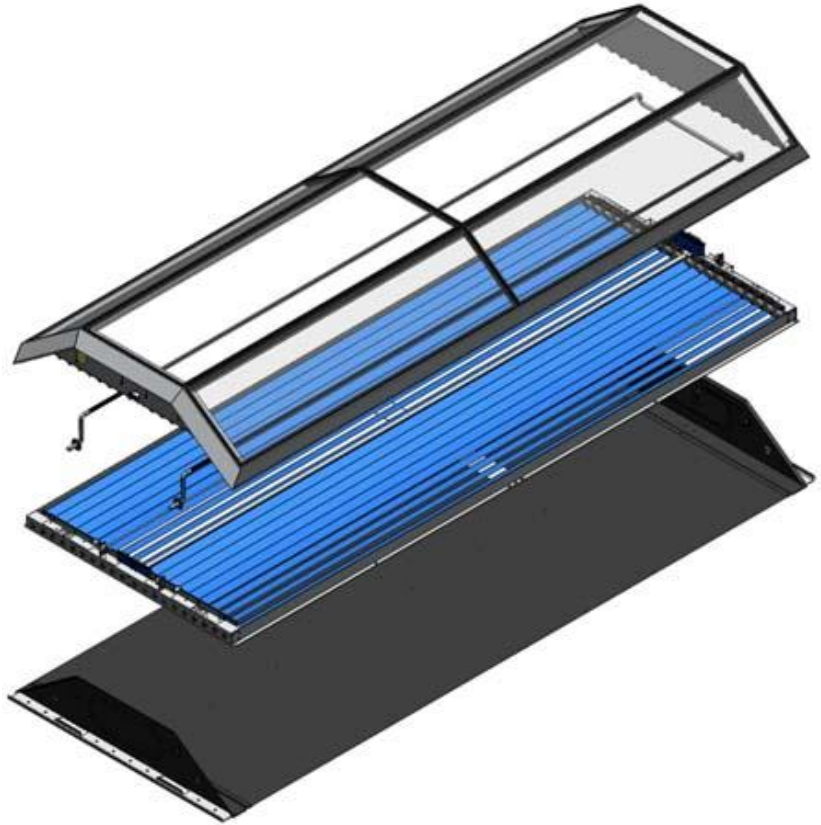
In 2010 Chromasun will install a solar driven system to supplement building air-conditioning load and offset this peak electrical consumption with clean renewable energy.

The project will involve fitting Chromasun's MCT collectors on the roof spaces which will in turn provide high grade thermal energy to the air-conditioning plant room.

MCT – How it Works

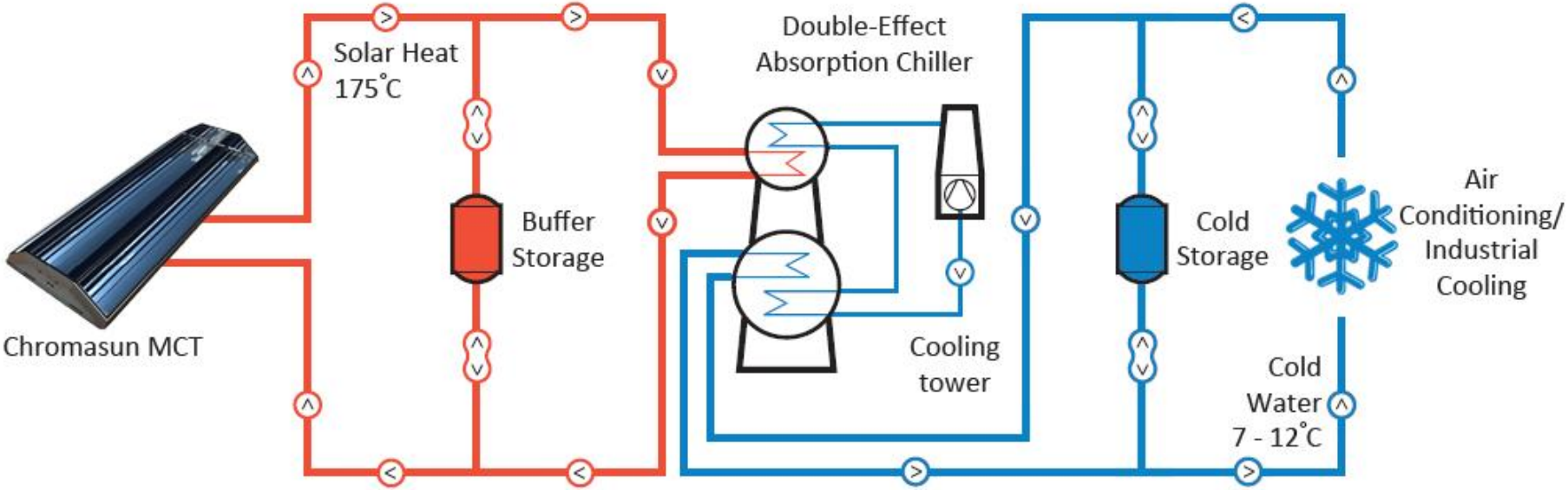
The Chromasun MCT is a solar thermal collector that utilizes a classical Fresnel reflector optic to obtain 25 times sun concentration. The optic comprises lightweight, highly reflective aluminium mirrors which pivot in unison to follow the sun. The entire optic is enclosed in a sealed glazed canopy which protects the mirrors from wind, rain and dirt.

Solar energy is collected from the mirrors in a high performance receiver tube and sent to the plant room at 175˚C.



Air Conditioning Configuration

Inside the plant room a double-effect absorption chiller will be fitted that will convert the heat coming from the MCT panels into chilled water that supplements the cooling for the building.



The Future of Solar Air Conditioning

Chromasun CEO, Peter Le Lièvre spoke about the project; “The Chromasun MCT showcase at the ADDC Distribution Management Center will be the first showcase demonstration of commercial solar air-conditioning in the UAE. I thank the Abu Dhabi Water and Electricity Authority for their support of this project and also thank ADDC for their generous cooperation.

I believe that advanced solar-air-conditioning technologies such as the Chromasun MCT can significantly reduce the peak electricity power demands of buildings and hence improve the operational stability of modern grid systems which are under the greatest stress on hot summer days. This showcase project will prove the viability of such systems and pave the way for far greater adoption of solar air conditioning in the UAE.”

THANK YOU

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