



ABSOLICON
S O L A R C O L L E C T O R S

Absolicon T160 Solar collector

SOLAR HEAT IN DESALINATION

**BE PART OF THE TRANSITION TO
RENEWABLE SOLAR ENERGY**



CLEAN THERMAL ENERGY

We help you make the change from fossil fuels, providing a competitive and clean heat solution using solar thermal resources.

The world is rapidly changing. At Absolicon, we are committed to the transition to renewable heat and envision a sustainable industry.

Absolicon solar thermal solutions ensure energy security for industries, reducing CO₂ emissions and fossil fuel dependency.

Our latest solar collector is the Absolicon T160. With 76% optical efficiency⁽¹⁾ and an operational temperature of up to 160 °C, the T160 supply heat and steam to a wide spectrum of processes and industrial segments.

The investment in Absolicon solar thermal is made competitive by local production, limiting transport costs and adapting material choices to the conditions and supply of your local market. Our production partners, located all over the world supply the market with T160 Solar collectors. The collector price is optimized by its streamlined design that allows mass production in Absolicon semi-automated Production line, producing one collector every 6 minutes.

Absolicon T160 technology is certified with Solar Keymark and Absolicon has been awarded the Solar Impulse label, for clean and competitive solutions, twice.



[COMMITTED TO ZERO CO₂ INDUSTRY](#)



Respectful

Committed

Visionary

[LEARN MORE ABOUT ABSOLICON BUSINESS CONCEPT](#)



The benefits of solar heat in desalination:

- **Reduction in CO₂ emissions:**
As multi-effect desalination requires most of the energy in form of heat, a switch to renewable thermal energy supply help reduce the total CO₂ emission in a sustainable way.
- **Reduction in fuel cost:**
Thermal desalination combined with solar collectors is a competitive option in regions where both fossil fuel and freshwater are expensive.
- **Energy security for industry:**
The fuel prices are prone to rapid changes, which can negatively affect the industry revenues. Thus, solar energy can provide sustainable heat, ensuring energy security for industries.

(1) In tests at The Swiss Institut für Solartechnik (SPF) in Rapperswil Absolicon T160 Solar collector has shown to have an efficiency of 76.6 %. The highest number ever achieved for a small parabolic trough.

SOLAR SOLUTIONS FOR DESALINATION

Absolicon technology Integrates solar desalination, resulting in stable energy supply with low emission.

In desalination plants often located in coastal areas with high solar radiation, solar heat becomes a viable and renewable alternative to a fossil fuel-driven system. In countries with a high salinity of water, thermal desalination is preferably combined with solar desalination.

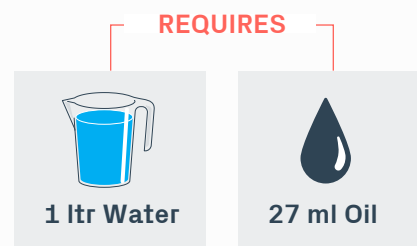
In a smart integration, Absolicon solar system is used to supply heat directly to the process, thus reducing heat losses resulting in significant fuel savings.

Absolicon T160 Solar collector efficiently produces steam up to 160 °C, supporting a large fraction of desalination heat demand. Absolicon always ensure a smart integration with your existing boiler system.

As major desalination companies around the world aim for energy efficient, heat supply options, Absolicon provide a turnkey solution using solar collectors, heat recovery tanks and smart controls.



VIDEO: SOLAR SOLUTIONS FOR DESALINATION

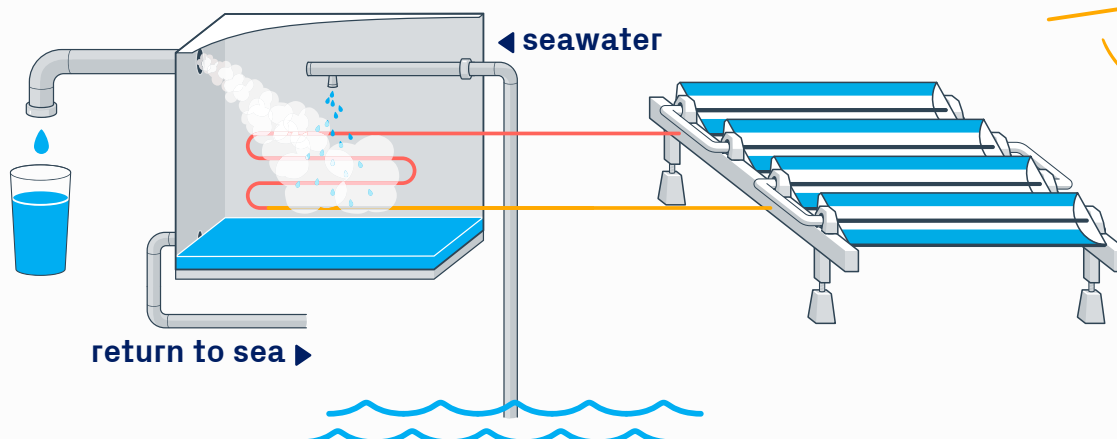


To meet the huge demand of energy in desalination industries the most common raw material being used is oil.

To produce 1000 m³ freshwater per day, 10,000 tons of oil per year is required, about 27 tons of oil per day.

Combining thermal desalination with solar collectors saves both cost and emissions from oil usage and provide a renewable and competitive option for desalination.

With the help of Absolicon technology, the energy required can be supplied with lower greenhouse gas emissions.



APPLICATIONS

Solar desalination replaces or supplements existing system, providing a renewable energy alternative to meet the demand.

CHEMICAL SECTOR

There are numerous applications of desalination methods in the chemical processing industry such as metal and solvent recovery, acid purification, process water treatment and reuse etc.

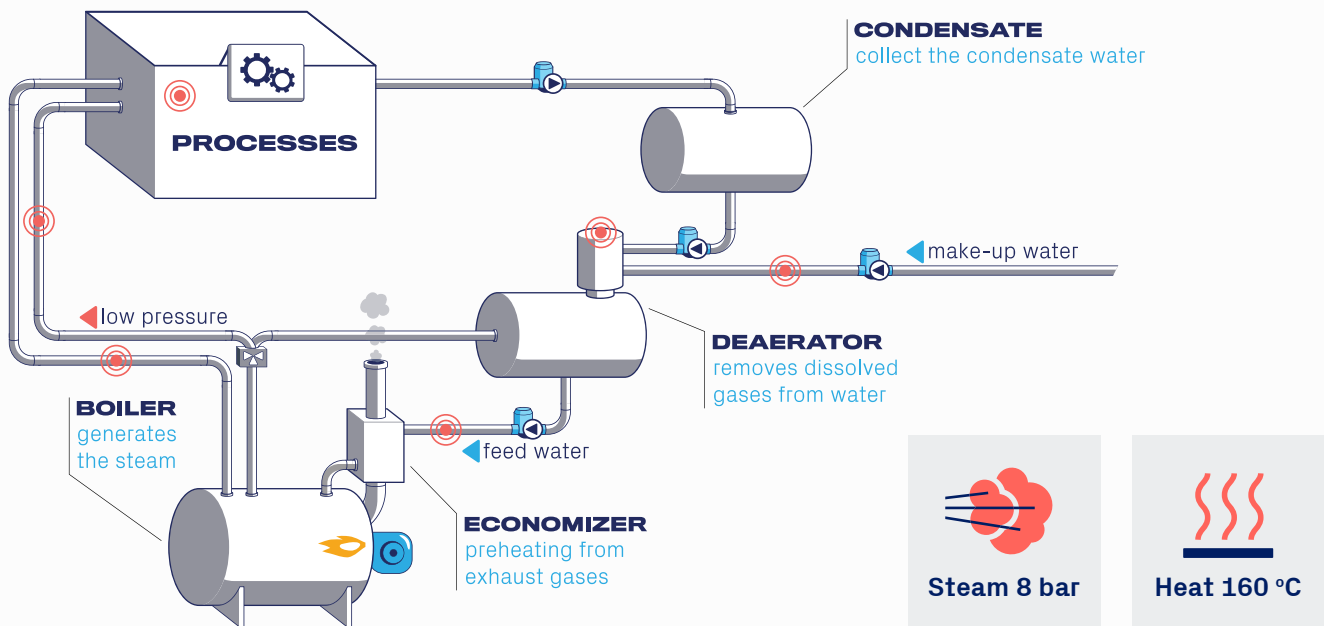
MINING SECTOR

Solar desalination can avoid the transport of seawater to the far away located mines, which is usually solved by using a pumping system, and thus pumping cost.

OTHER SECTORS

Solar desalination can supplement, or replace existing thermally driven desalination systems in many sectors.

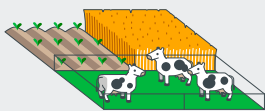
MULTIPLE INTEGRATION POINTS



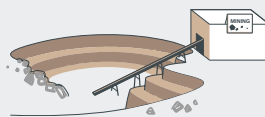
PROCESSES



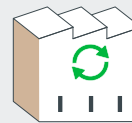
DRINKING WATER



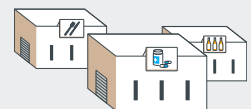
AGRICULTURE



MINING



WASTEWATER TREATMENT



INDUSTRIAL APPLICATIONS

CASE STUDY

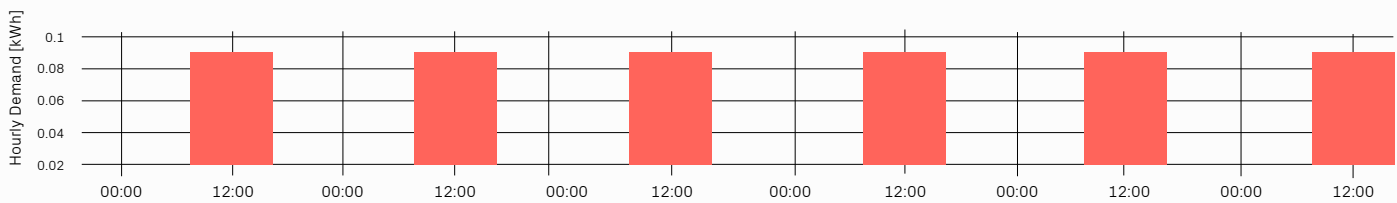


Location Saudi Arabia

CUSTOMER DEMAND

Annual demand	24 157 [MWh]	Application	Desalination
Operation temperature	140 [°C]	Steam / Hot Water	Steam

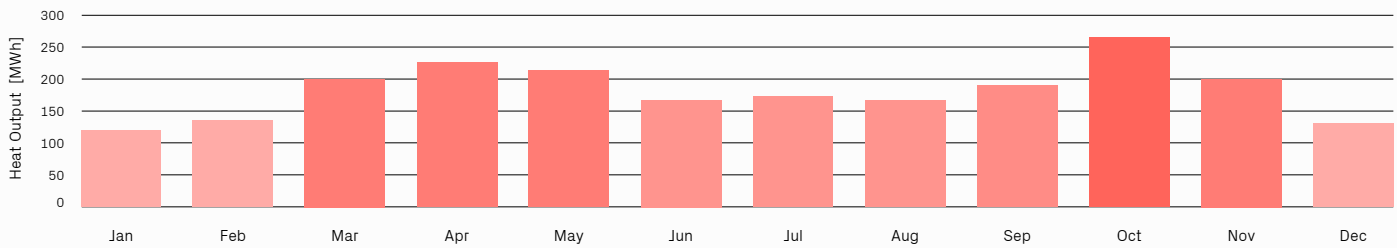
Weekly demand profile



SYSTEM FIELD CONFIGURATIONS

Annual demand	1,716 [m ² aperture]	Heat Storage Size	1 [m ³]
Yearly System Production	2,133 [MWh]	Heat Storage Pressure	1 atmospheric [bar abs]

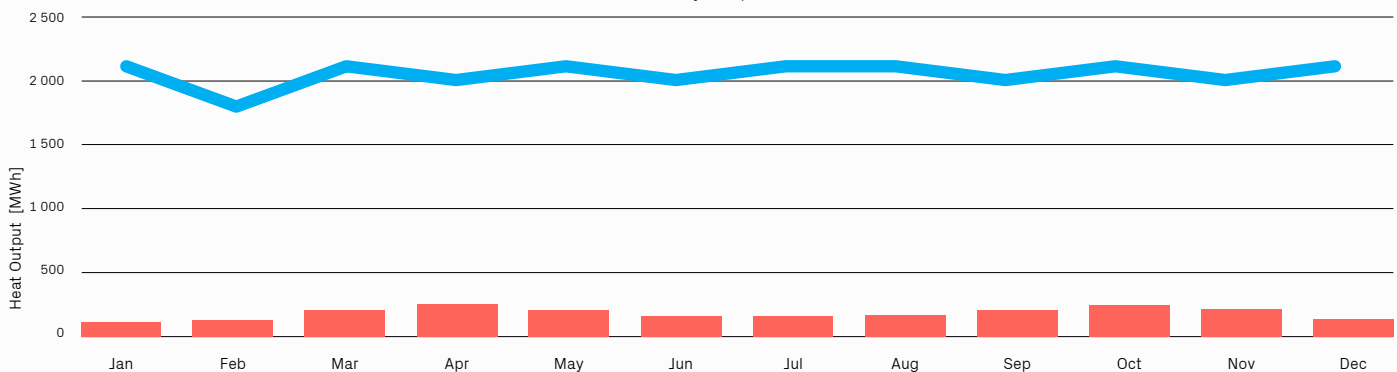
Monthly Heat Output



SYSTEM PERFORMANCE

Yearly available solar production [kWh/m²] 1,243

Solar system performance

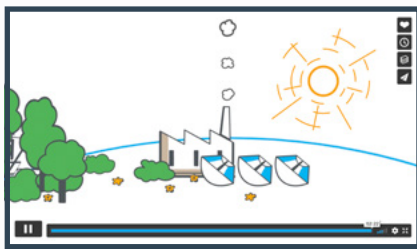
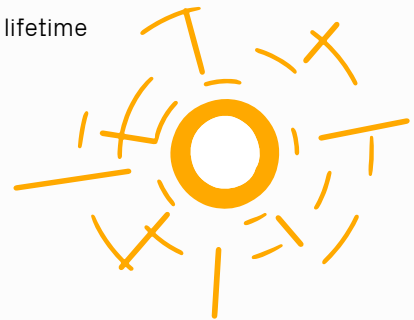


T160 SOLAR COLLECTOR

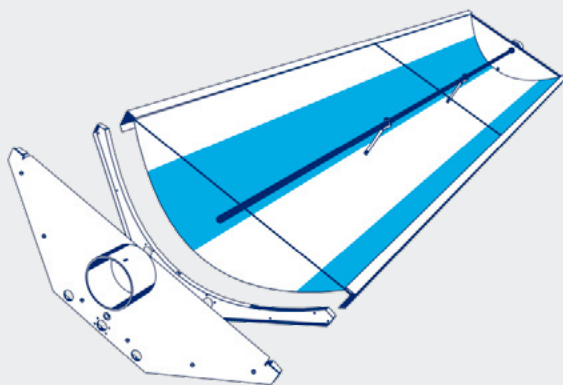
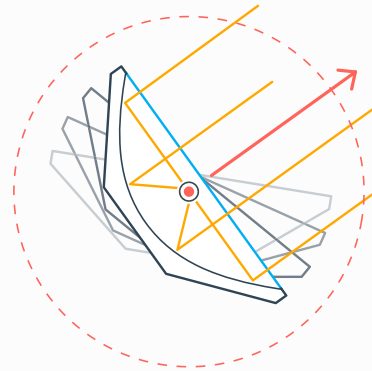
Absolicon T160 is a medium sized parabolic concentrator for heat up to 160 °C & steam up to 8 bar.

Absolicon T160 Solar collector has a record high optical efficiency, the first of its kind to be certified with Solar Keymark and is constructed with world class patented components.

Absolicon T160 has an excellent durability, allowing us to deliver collectors with 25 years lifetime and 5 year hardware warranty.



[VIDEO: HOW T160 COLLECTOR WORKS](#)



Operation Temperature

40-160°C

Optical Efficiency

>76 %

Operation Pressure

8 Bar

Patents

10

[DOWNLOAD ABSOLICON T160 DATA SHEET](#)

[DOWNLOAD ABSOLICON T160 SALES BROCHURE](#)



[LEARN MORE ABOUT T160 SOLAR COLLECTOR](#)

ABSOLICON FIELD SIMULATOR

Converting to solar energy is a long-term investment. With the help of our Field simulator you can estimate your energy savings and calculate reduction in costs.

1. Visit absolicon.com/fs
2. Locate your factory using google maps.
3. Insert the wanted operating temperature.
4. Insert your current energy source.
5. The results are displayed in real time and a summary is sent to your email.



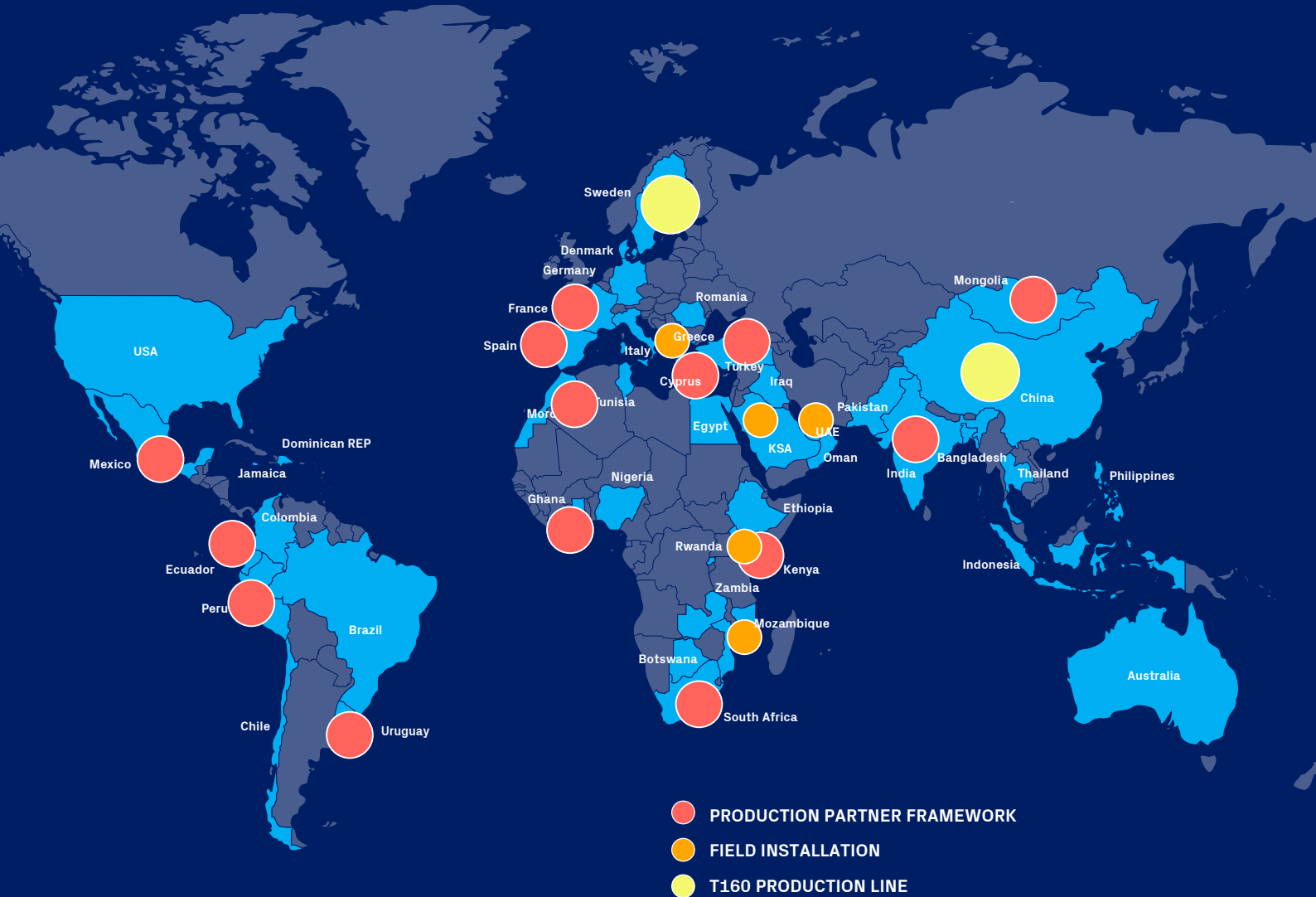
[CALCULATE YOUR SAVINGS WITH FIELD SIMULATOR](#)





ABSOLICON

SOLAR COLLECTOR



At age eleven Absolicon founder and CEO Joakim Byström drew his first solar concentrator.

The company Absolicon was established in 2005 as a research and development company in solar technology. Today, Absolicon is a business company with more than ten years of operational experience from over 6000 sqm installed area in 20 installations worldwide.

Absolicon T160 technology is certified with Solar Keymark and Absolicon has been awarded the Solar Impulse label twice.

By developing, manufacturing and selling solar energy systems that generate renewable energy in various forms, we are helping to solve the world's energy problem.

Absolicon Solar Collector AB,
Fiskaregatan 11, 871 31 Härnösand - Sweden

E-mail: sales@absolicon.com

Mobile: +46 73 988 89 85

www.absolicon.com

