CASE STORY

THE CUSTOMER
Absolicon Solar Collector, a pioneer in the development of sustainable technology.

THE CHALLENGE
Build Sweden's largest district heating system based entirely on solar concentrating technology.

THE SOLUTION
Högslätten solar thermal park in Härnosand, Sweden's first high-capacity solar-powered district heating plant in decades.

THE HEAT EXCHANGERS
High-capacity SWEP B649 brazed plate heat exchangers (BPHEs).

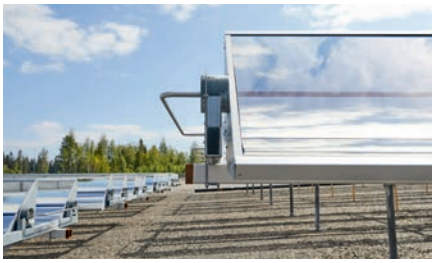
THE RESULTS
The solar collectors are designed to produce up to 160°C working temperature and can provide the district heating network with temperatures up to 120°C.

Sweden's largest district heating system based on solar concentrating technology

SWEP
A DOVER COMPANY

Absolicon Solar Collector, in collaboration with the Swedish Energy Agency, has developed Sweden's largest district heating system based on solar concentrating technology. The new solar park is located in Härnosand, 400 kilometers north of Stockholm. The first phase of the project, which has been in operation since 2021, featured a 1000 m^2 field of solar collectors, as well as a service building for a heat-transfer connection to the heating network. Since the park's completion in 2023, heat generated from the expanded field of 3,000 m^2 of parabolic trough collectors has been fed directly into the district heating grid in Härnösand, providing the city with renewable, combustion-free heat and hot water.

Absolicon's innovative technological solution creates the high temperatures needed to generate energy for the heat network. The solar panels rotate to follow the path of the sun from sunrise to sunset, maximizing the amount of heat that can be captured, while a silver mirror directs sunlight to a receiver filled with pressurized water. These panels have the highest measurable efficiency and are the first of their kind to be certified according to the Solar Keymark quality standard. When energy is inexpensive to produce, it is stored in the heating network for distribution later, when prices rise.



Högslätten solar park provides renewable heat and hot water to the city.

More About Absolicon

Through more than two decades of research, Absolicon has developed world-leading solar thermal technology, including the world's first Solar Keymark-certified solar concentrator. The Absolicon T160 solar collector can run industrial processes with temperatures up to 160°C and has the highest optical efficiency ever measured, at 76.4%. By providing cost-effective solar heat solutions for industries around the world, Absolicon is continuing its mission to lead the transition to sustainable energy for the entire planet.

The role of SWEP BPHEs

High-capacity SWEP B649 brazed plate heat exchangers are key to this installation The heat from the solar field has a working temperature between 73°C and 120°C and is fed directly into the city's district heating network – with the help of several SWEP B649 Brazed Plate Heat Exchangers. These powerful units make it possible to build larger, more cost-effective energy transfer stations with significantly greater output capacity than previous systems.

Why choose SWEP?

SWEP brazed plate heat exchangers are a key component in many solar heating applications. They make it easy to create a clear temperature stratification, without thermal convection in the accumulator tank. They are extremely efficient, even in duties with very small temperature differences, reducing electricity consumption. And because the BPHEs create a fully turbulent flow, they eliminate deposits and buildup, for a maintenance-free heat transfer solution.

SWEP B649 brazed plate heat exchanger