Energy Systems

Solar systems

The environmentally friendly and economical solution

Living full of energy

The sun radiates an immense amount of energy to the earth. Enough solar radiation reaches the globe in half an hour to meet the total annual worldwide energy demand.

Roth solar systems
Using environmentally-friendly heat

Swimming pool absorbers for a pleasant open-air swimming season

Solar thermal systems are ideal for heating the water in outdoor swimming pools. The swimming pool water flows through the black, unglazed absorbers made of high-quality UV-resistant high density polyethylene and is heated in the process.

Thanks to the swimming pool absorbers, the water in an outdoor swimming pool can achieve pleasant temperatures in an environmentally-friendly and economical way.

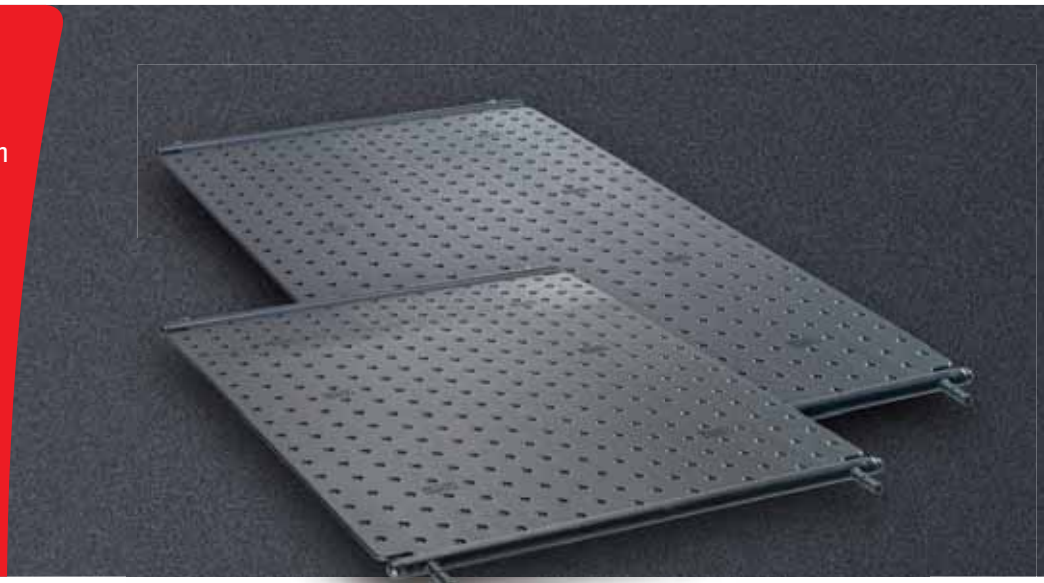
The use of swimming pool absorbers also makes it possible to extend the outdoor swimming season. The absorbers pays for themselves in no time at all.

The service provided is also helpful. A comprehensive field service ensures fast on-site consultation concerning technical and commercial questions. A well-developed logistics network is in place, guaranteeing reliable delivery and supply of spare parts.

Roth HelioPool® swimming pool absorber

for direct solar heating of swimming pools operating on the constant flow principle

- one absorber type only
- optimal absorber sizes
- horizontal and vertical installation
- highly efficient
- full-surface throughput, frost-resistant* and strong enough to walk on
- high-quality HDPE
- low pressure loss
- direct flow-through of swimming pool water
- comprehensive Roth guarantee



Solar energy for environmentally friendly and economical heating of swimming pools

As a specialist processor of plastics, Roth developed the Roth HelioPool® swimming pool absorber using high-quality, high-density polyethylene (PE-HD). It is suitable for use as an environmentally friendly and energy-saving method of pool heating using the constant flow principle. All installation applications can be implemented with just one absorber type, as the absorber includes eight variable outputs. This guarantees simple assembly.

The outstanding features of the Roth HelioPool® absorber are its optimal sizes of 1.2 m² and 2.22 m² and its high degree of efficiency. It boasts full-surface throughput, frost-resistance* and sufficient strength to support the weight of a person and is suitable for the direct flow-through of swimming pool water. The absorber is specially designed with the ideal thickness to guarantee low pressure loss. The two absorber sizes can also be combined easily.

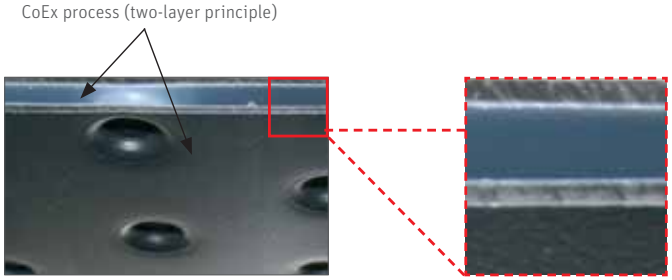
Cost-effective solution

Swimming pool absorbers which use solar energy represent an economical solution for swimming pool heating. This kind of equipment pays for itself in no time at all.

Unique

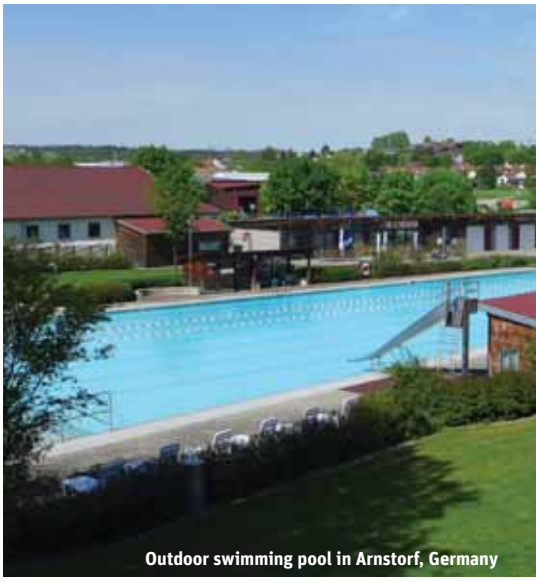
The CoEx manufacturing process gives the absorber a two-layer material structure with different characteristics. This results in a high level of stability and weather-resistance as well as a permanent UV resistance, guaranteeing the durability of the HelioPool® swimming pool absorber. The material is frost-resistant* and strong enough to walk on.

CoEx process (two-layer principle)



* Frost-resistant if combined with antifreeze. If antifreeze is not used, the Roth HelioPool® swimming pool absorber must be drained if there is a risk of frost.

Outdoor swimming pool in Arnstorf, Germany



Outdoor swimming pool in Arnstorf, Germany

Stored heat for an extended swimming season

Roth HelioPool® achieves pleasant water temperatures throughout the swimming season. The season can even be extended, since Roth HelioPool® stores heat for use when the temperature starts to drop.

What can we do for you?

Reduce your energy costs with a swimming pool heating system that has proven itself over many years of use.

Energy-efficient – Example: Outdoor swimming pool in Arnstorf

Significant savings were achieved for an outdoor swimming pool in Arnstorf, southern Germany, by using the Roth HelioPool® swimming pool absorber:

Swimming pool size/volume: 1000 m^3
Roth HelioPool®: 142 units (approx. 315 m^2)
Installed absorber capacity: 221 kW
Energy savings: 16,000 litres heating oil/year
Reduction in CO^2 emissions: 42.64 t

Design information

The performance values of the absorber cannot be compared with those of a glass-enclosed collector with thermal insulation. Since the HelioPool® absorber is not glass-enclosed and has no rear panel insulation, the performance of the absorber depends on the expected speed of the wind. Another key point in the design of the absorber system is whether or not the swimming pool is covered at night, as this has a considerable influence on the design.

When determining the approximate quantity in Central Europe, the following rule of thumb applies for uncovered swimming pools:
Absorber area = 0.6 x swimming pool surface area

5 Jahre
Roth Garantie

MADE IN 100% GERMANY

Roth HelioPool® swimming pool absorber
flexible application


Outdoor swimming pool in Niedereisenhausen, Germany

One size fits all

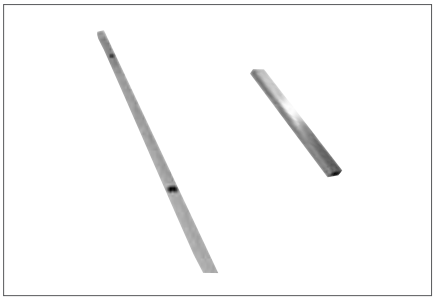
Each absorber has eight connections (4 x 25 mm and 4 x 40 mm) with variable assignment options depending on the type of connection, meaning only one model is needed.

All from one source

Roth supplies a complete ready-to-fit system including a Roth attachment set for on-roof installation, matching connector sets and a Roth SW solar regulation unit.

Roth HelioPool® technical specifications		
Length [mm]	2000	1090
Width [mm]	1100	
Height [mm]	15	
Gross surface area [m²]	2.22	1.2
Weight [kg]	14	8.5
Filling capacity [l]	16	8
Connections	8, four with a diameter of 40 mm and four with a diameter of 25 mm. To be used depending on the absorber connection method.	
Short period test pressure [bar]	3	
Max. operating pressure [bar]	1 ±0.1	
Material	PE-HD (black)	
Number of absorbers for horizontal connection (max.)	8	
Number of absorbers for vertical connection (max.)	4	

Roth HelioPool® accessories


Roth HelioPool® installation rails long and short


Roth universal attachment anchors horizontal and vertical


Roth HelioPool® connection set and end stopper set

Types of fastening for the Roth HelioPool®

Flat roof installation

Installation on level open spaces

Free-standing/special design

Sloping roof installation

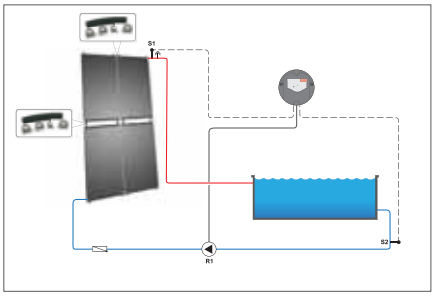
Installation on sloping open spaces

Roth SW solar control unit
optimal control for your system

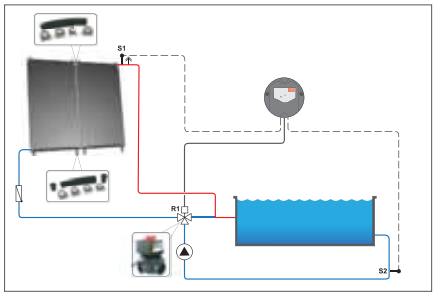
Roth SW solar control unit

The Roth SW solar control unit provides a simple way of regulating differences in temperature. It does not have a temperature display. Settings are adjusted using a DIP switch and potentiometer. The control unit can always be used whenever only temperature difference regulation is required, e.g. for the regulation of swimming pools using Roth HelioPool® or the regulation of standard solar systems with a storage tank or return riser. Two PT 1000 temperature sensors can be connected.

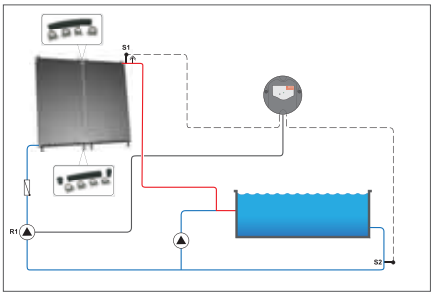
Operation with its own pump and the Roth SW solar control unit, piping separate from the filter system



Operation with swimming pool pump and the Roth 3-way cross-over valve in combination with the Roth SW solar control unit



Operation with its own pump, swimming pool pump and the Roth SW solar control unit integrated into the filter system



Possible applications

more than just a swimming pool absorber

Outdoor swimming pool in Mühldorf am Inn, Germany

Heating domestic water

The Roth HelioPool® can be used in combination with a heat exchanger to heat domestic water in southern countries.

Heat exchanger

In a system for emitting or extracting hot/cold air, the Roth HelioPool® can be used as a heat exchanger.

Thermosiphon system

It can also be used in a thermosiphon system.

5 Jahre
Roth Garantie

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References

actual examples that speak for themselves

1

2

3

4

5

6

1 **Roth HelioPool®** swimming pool absorber
Outdoor swimming pool in Gramming, Germany

2 **Roth HelioPool®** swimming pool absorber
Outdoor swimming pool in Niedereisenhausen, Germany

3 **Roth HelioPool®** swimming pool absorber
Outdoor swimming pool in Knüllwald-Remsfeld, Germany

4 **Roth HelioPool®** swimming pool absorber
Small system in Nordhorn, Germany

5 **Roth HelioPool®** swimming pool absorber
Outdoor swimming pool in Mühldorf am Inn, Germany

6 **Roth HelioPool®** swimming pool absorber
Outdoor swimming pool in Arnstorf, Germany

Our strengths
Your benefits

Innovation

- Early identification of market requirements
- In-house materials research and development
- In-house engineering
- The company is ISO 9001 certified

Service

- Extensive field network of qualified sales professionals
- Hotline and project planning service
- Factory training courses, planning and product seminars
- Fast availability of all Roth brand product ranges throughout Europe
- Comprehensive guarantee and extended liability agreements

Products

- Complete range of easy-to-install product systems
- Manufacturing expertise for the complete product range within the Roth Industries group of companies

Roth Energy and Sanitary Systems

Generation
Solar energy systems <
Heat pump systems <

Storage
Storage systems for
Drinking and heating water <
Combustibles and biofuels <
Rainwater and waste water <

Use
› Radiant heating and cooling systems
› FlatConnect apartment stations
› Pipe installation systems
› Shower systems

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