

Heliotube: Aufblasbarer Konzentrierender Sonnenkollektoren

Source:

www.heliovis.com

Section:

Heliotube: Inflatable concentrating solar collectors

Company: HELIOVIS AG

Location: Wiener Neudorf, Austria

Description:

The Austrian research company HELIOVIS AG is developing a new solar concentrator for large solar power plants, which consists mainly of plastic films and enables up to 50% cost reduction compared to other conventional solar power plants.

The product of the company, the inflatable HELIO tube, has a long cylindrical shape. A mirror sheet runs longitudinally in this cylinder lying on the ground, dividing the cylinder into two airtight chambers. A small difference in pressure between the upper and lower chambers bulges the mirror foil downwards, creating a mirror channel that bundles the incident sunlight onto a focus line in the upper chamber. The helio tube is aligned from north to south and follows the solar movement one-dimensionally from east to west. Concentrated sunlight in commercially available thermal absorbers placed along the focal line is used to produce steam, which can then be used as heat for industrial processes or power generation.

The HELIOtube is protected by patents in all important solar markets and has significant competitive advantages in terms of material use, production and logistics. It consists of comparatively light and thin plastic films and gains high mechanical stability by inflating. This light-weight structure is an extremely resource-saving construction: the material use per m² of the surface area is reduced to approx. 5 kg.

In conventional systems, e.g. Parabolic trough power stations, the material insert is approx. 50 kg, since these are based on complex steel and glass constructions.

Since the HELIOtube is also wound on a reel in the finished state, the transport to the place of use in sea freight containers and with the usual standard logistics is also simple and cost-effective. The HELIO tube can be quickly installed and inflated on prepared brackets.

The HELIO tube can be produced centrally. The concentrator is made flat from rolled plastic films in a single process step from "roll to roll". This means that production is efficient and very suitable for mass production.

Conventional systems are struggling with increasing difficulties with larger dimensions: the requirements for design and stability increase with the size overproportionally and limit the technically and economically reasonable usage size. The advantages of the HELIOtube, on the other hand, grow in principle with the size: the larger the diameter, the smaller is the necessary pressure to tension the films and the more stable the entire construction

The technology company HELIOVIS AG has won several prizes and awards for its innovations and cooperates with renowned partners from science and industry in Germany and abroad.

Further information [LINK](#).

footer

Image not found
<http://ecolinks.agency4e7.com/sites/default/files/print/print-footer.jpg>