

SOLAR TECHNOLOGIE  
INTERNATIONAL GMBH

**sti**



Solar collector **FIN**   
..... Made in Germany

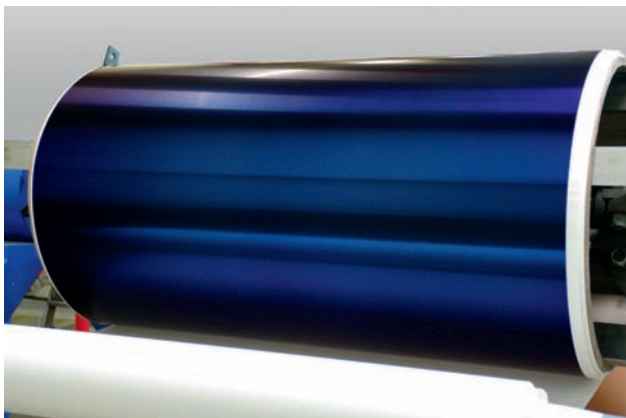
# Solar collectors

•••••••• Made in Germany



More than 20 years of experience as well as continuous research and development have been put in our high-performance collectors. Our own industrial production ensures the extremely high quality criteria of the collectors. A constant quality standard at the highest level is guaranteed by a variety of measures of quality assurance as well as continuous monitoring throughout the production process. Thanks to the latest absorption technology with proven ultrasonic welding and vacuum coating maximum revenues can be achieved with our solar collectors. Besides quality and capacity environmental protection is ensured during development and production. Environmental protection means an efficient energy input throughout the production, short transport routes for ecological supply of raw materials and the use of non-toxic, recyclable material. The competent know-how in the field of collector manufacture guarantees that all aspects from construction to quality control are taken into account during the production process.

**Advanced technology „Made in Germany“ –  
because only the best is good enough!**

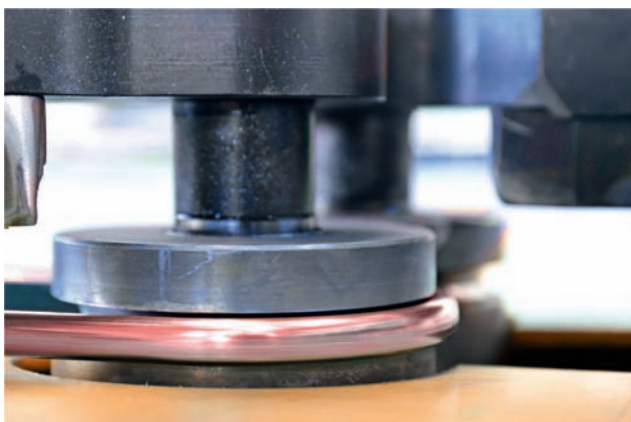
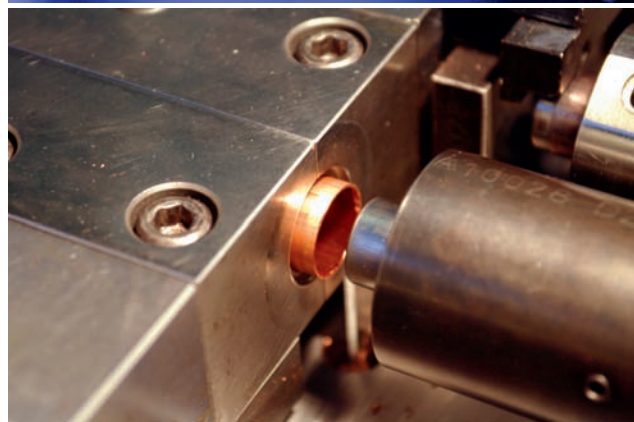
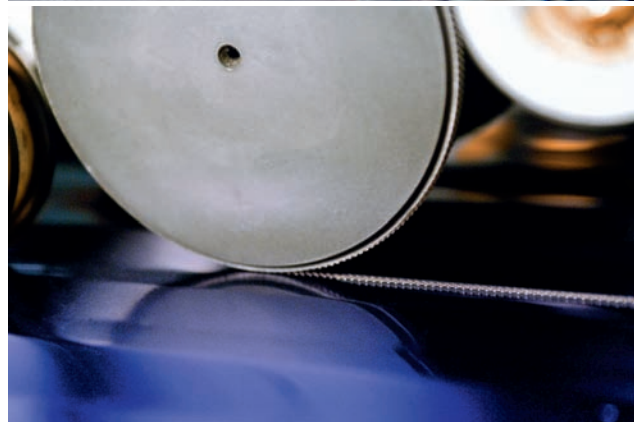
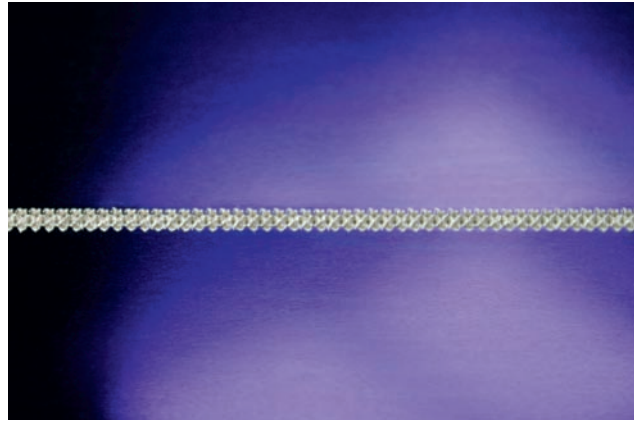


# Expert knowledge and own production

..... Automated manufacturing process

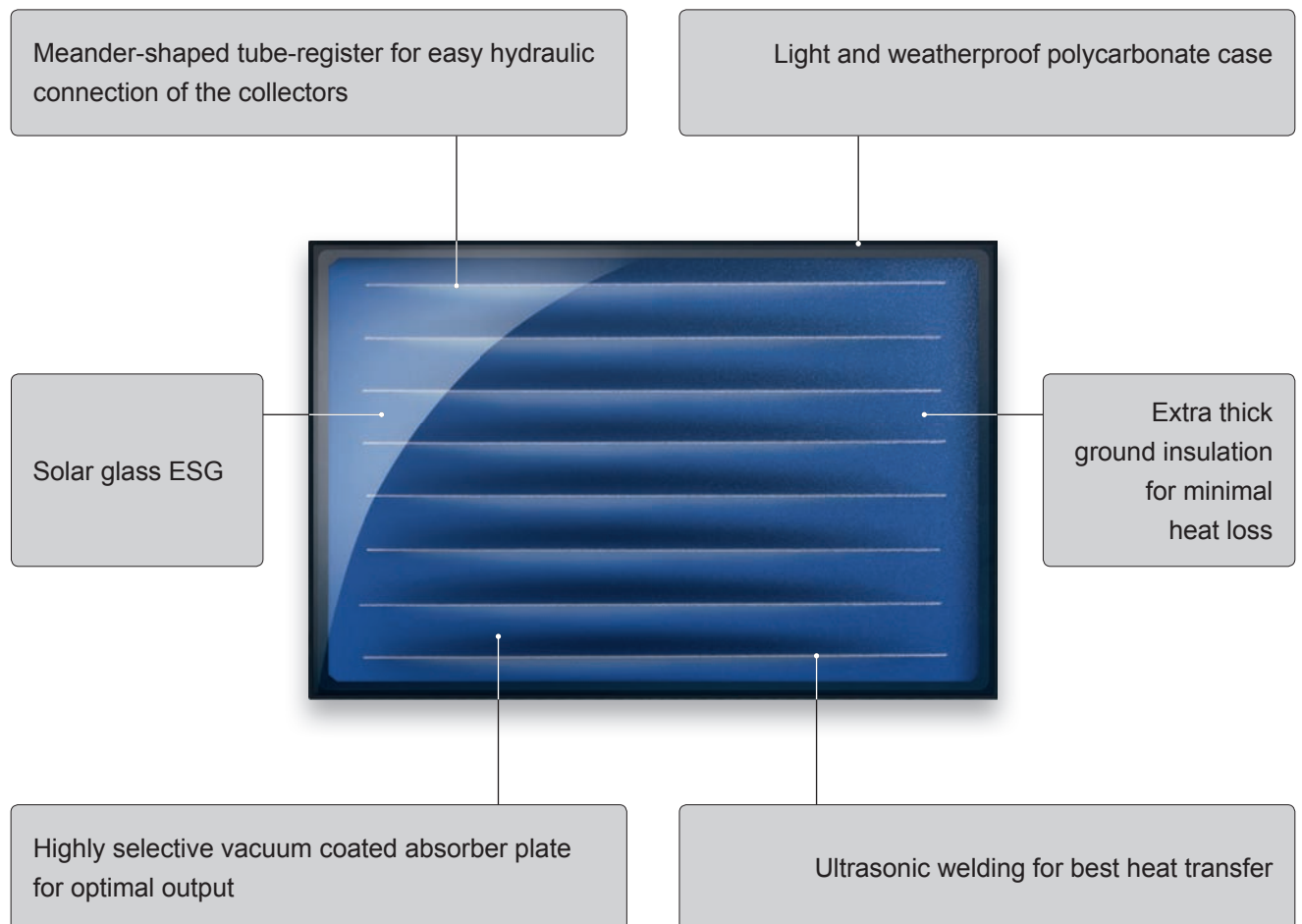
Thanks to an independent production with automated manufacturing and most modern production process we produce collectors according to the highest quality standards. With a manufacturing depth of almost 100 %, ranging from absorber production to packaging of the collectors, innovations can be implemented quickly and consistently. The quality is ensured by automated processes in the manufacturing process:

- **Research and development**  
Innovative solutions for our solar collectors are designed in constant research and development and are implemented in the production process.
- **Collector production**  
The automated manufacturing ensures the constant high quality of the collectors.
- **Quality Management System**  
The continuous quality control – from incoming goods up to the whole production process of the collector – is ensured by the Solar Keymark certification with the requirements of DIN EN ISO 9000/9001.



# Solar collector

..... The big hit among the small



Solar Keymark  
011-7S154F



Zertifiziert  
EN12975:2006

# The technology

## Latest absorber technology •••••

The core of the solar collector FKA is the full-plate absorber. The highly selective vacuum coating is environmentally friendly and technologically state-of-the-art.

Especially in low light, as it's common in Europe, the collector can achieve very high output.

Due to the use of high quality and pure materials the best heat transfer is ensured.

### **Meander absorber for easy hydraulic connection**

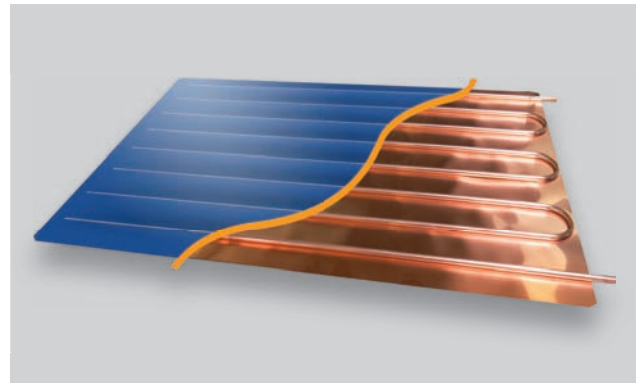
The meander absorber in the high-performance collector FINO allows the easy hydraulic interconnection of the collectors and permits the modular extension of the collector arrays.

### **Ultrasonic welding for advanced absorption technology**

The absorbers are produced fully automatically in the ultrasonic welding machine. This modern welding process ensures a strong and extensive connection between the absorber plate and the tube whereby the best heat transfer is guaranteed. Moreover, constantly high output can be achieved during the collector's whole working life.

### **Pure absorbers**

The usage of pure materials in the absorber production will prevent corrosion, as it may occur while using different metals (e.g. copper and aluminium). The absorber is constantly exposed to high fluctuations in temperature. Due to the use of pure metals in the absorber can rule out a mechanical strain because of differential extension (bimetallic effect), as it may occur with mixed material (e.g. copper and aluminium) can be prevented.



### **Environmentally friendly**

The vacuum coating process of the absorber plate is – in contrast to other methods – emission-free, non-harmful and requires about 10 times less energy than conventional manufacturing methods. In addition, the vacuum coated absorber plate is 100 % recyclable and can be put into the raw material system without any problems. The coating is wear-resistant and non-corrosive and therefore a guarantee for constantly high output during the working time of the solar collector.

### **High output**

Optimal heat output can be achieved thanks to the high efficiency of the absorber of 95 %.

Even in low light, as it is common in winter, high output can be realised by the highly selective vacuum coated absorbers.

The daily running time of the installation is thus extended.

# Very light

..... Thanks to new materials

More than 20 years of experience concerning collector production, continuous research and development as well as the use of innovative materials have been put into our solar collector FINO.

The FINO is very light and permits the perfect handling during transportation and installation possible. Thanks to its dimension and its weight the FINO can be transported and installed by one single person.

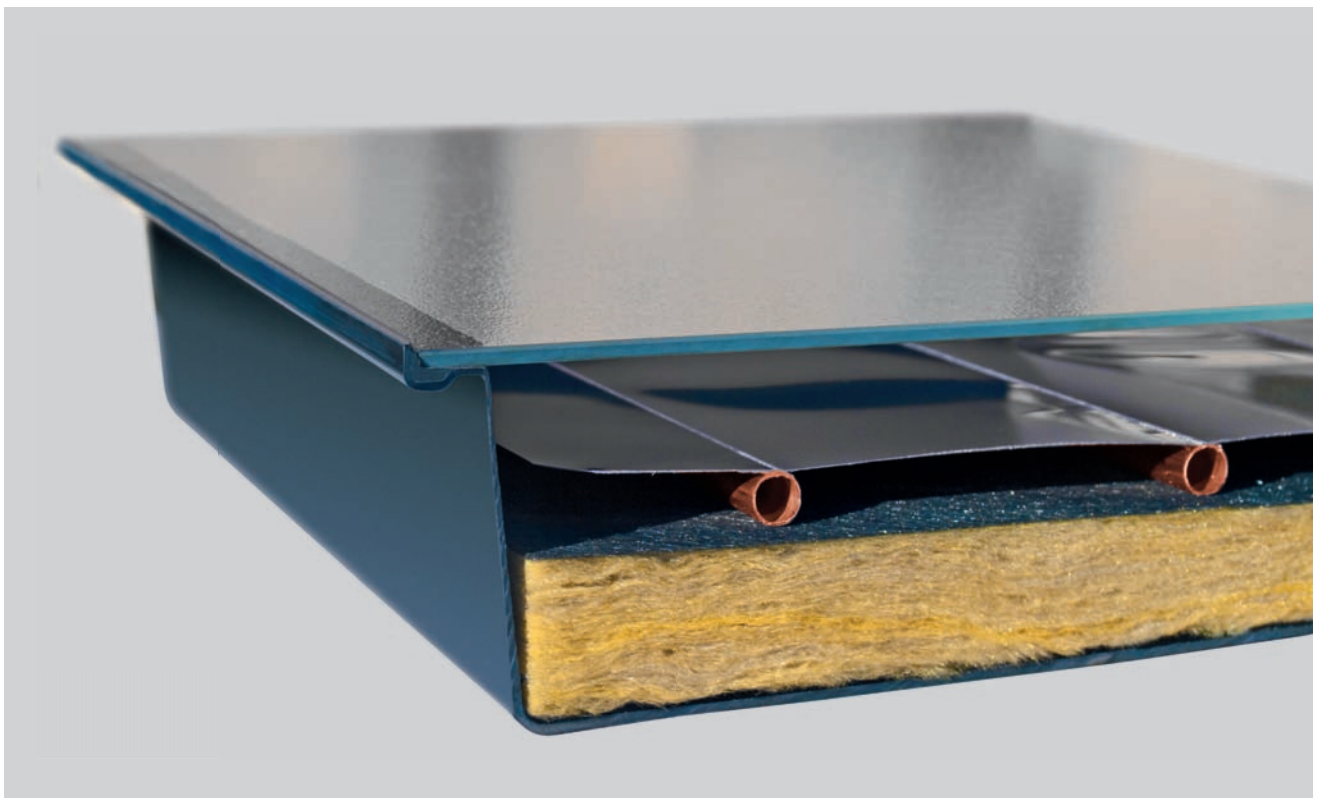
The specially designed collector case made of polycarbonate gives the FINO high strength and allows the installation in snowy regions and such with high wind loads.

The innovative material polycarbonate offers a variety of material properties that are particularly relevant for the collector production. Therefore the collector case of our FINO is primarily characterized by temperature and UV resistance.

The FINO can be easily installed near to the sea. Due to the usage of polycarbonate there cannot be any corrosion, as it may occur with metal frame constructions.

The solar glass is bonded directly to the collector case with a special adhesive technology, thus ensuring the impermeability of the collector. This technology has been approved for decades in the automotive industry.

A controlled air ventilation of the case ensures the exchange of air in the collector.



# Easy transport

Due to euro-pallet size ●●●●●●●●



The FINO is the first solar collector that is produced in the dimensions of an euro-pallet. Especially in transporting and warehousing the collector offers unique advantages.

20 FINOs are transported horizontally on one pallet. Up to 680 collectors can thus be loaded into a tractor-trailer, which corresponds to a collector area of more than 650 m<sup>2</sup>.

The transport costs per square meter of the collector area can be reduced significantly with the FINO.

Additional costs for expensive customized pallets drop since the euro-pallet can be put back into the product cycle without any problems. The handling of the collectors in the warehouse and distribution centre is also simplified due to the standardized measure of the pallet.



# Hydraulic connection

..... And installation in no time at all

## Easy hydraulic connection

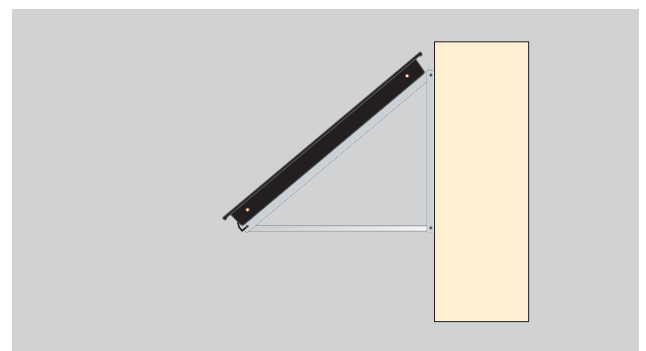
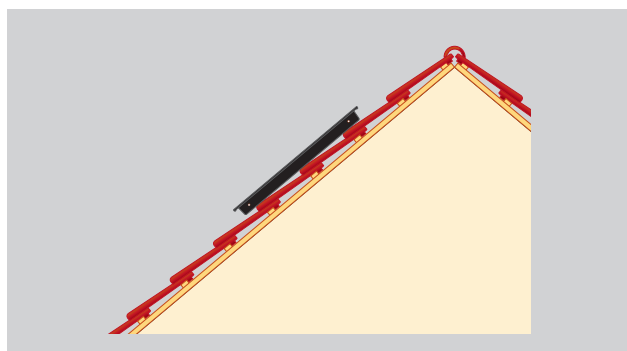
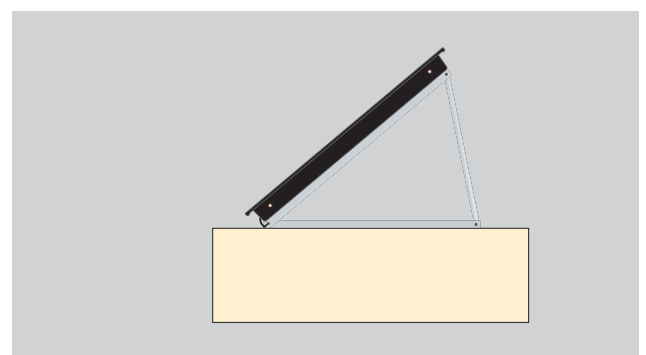
The meander absorber guarantees the simple, fast and perfect installation.

It is possible to connect the collectors either on the right or on the left side, whereby up to four collectors can be connected in series. Thus, many collector arrays can be combined with our FINO. Due to the usage of standard hydraulic accessories for the connection of the collectors, time and costs for the installation are reduced to a minimum.



## One system for all types of installation

Whether installation onto the roof or mounting on wall consoles and bottom supports – thanks to the approved quick assembly system any type of installation can be realised with the solar collector FINO. In all installations the same components are used for the mounting and the connection. The compact design and the low weight of our FINO facilitate the installation.





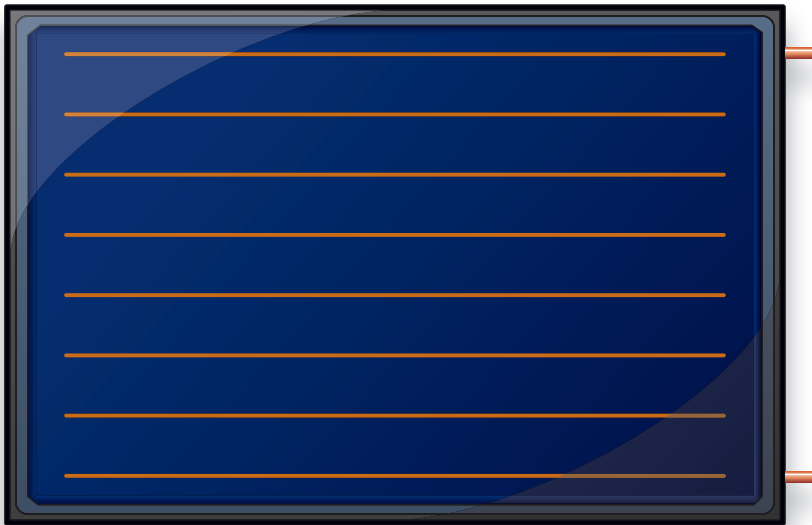
# One man installation

Safe and easy ●●●●●●●●



The innovative collector packaging with the practical strap makes transportation a breeze.

# Specifications



Model FINO	
Gross surface	0.96 m <sup>2</sup>
Length	1,200 mm
Width	800 mm
Height	70 mm
Frame	polycarbonate
Glass	solar glass ESG
Insulation	mineral wool
Absorber	Pure copper/Pure aluminium
Beschichtung	highly selective Vacuum coating
Weight	ca. 13.5 kg

## More products

### OEM solar collector

Besides the solar collector FINO the company STI develops and manufactures solar collectors according to specific customer requirements. The company STI GmbH supports the project from A to Z – from development to series production.



### Solar collector FKA

The solar collector FKA is another premium product of the company STI.

The collectors of the FKA series are distinguished both in two sizes and in vertical and horizontal design. The highly selective vacuum coated meander absorber with integrated manifold guarantees the modular construction of large collector fields and permits the usage of Drain Back systems.

As a versatile collector the FKA can be installed into or onto the roof, onto bottom supports as well as wall consoles.



### PV-module

With the new photovoltaic modules a closed hybrid-field can be installed in combination with the solar collectors of the FKA series. The integration of the modules in the collector frame creates a harmonious and unified picture on the roof.

Thanks to this combination it is possible to generate solar heat and electricity.



### Drain Back System

In recent years STI has developed several draining systems which are perfectly compatible with the FKA collector. During standstill of the system the whole heat transfer fluid flows back into the Drain Back tank. Therefore, overheating and air pockets are excluded. Heat transfer fluid and installation are protected and an interference-free activity of the system is possible.



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# High Energy. High Performance.

..... Made in Germany

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