



# SETTING GLOBAL STANDARDS

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GREENoneTEC **1**  
SOLAR COLLECTORS





# TOP BRAND IN SOLAR INDUSTRY

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## NUMBER ONE ON THE SOLAR MARKET:

GREENoneTEC is the world's largest thermal-flat-plate-collector manufacturer with an annual production capacity of more than 1.6 million square-metres of panels.

Our highly automated, process-secured robotic production lines offer the highest quality products with excellent delivery performance and reliability – made in Austria, of course, and certified to ISO 9001 and ISO 14001 standards.

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"In the global solar market GREENoneTEC has advanced to become the brand for highest production quality and innovation."

**Robert Kanduth**  
Founder / Managing Director



## OUR MISSION: NUMBER ONE FOR OUR CUSTOMERS

GREENoneTEC sees itself as a reliable and innovative manufacturer in the solar thermal industry. This maxim has made us the world's leading specialist in high quality solar thermal collectors.

### **The number 1 in the solar market**

For many industries and business sectors areas we are now the first go-to company for high quality solutions: GREENoneTEC supplies highly innovative systems and quality products to manufacturers of heating systems, solar system providers and industry. However, we also support our customers in projects with energy companies, public institutions, planners

and project developers, as well as with the wholesale trade and industry. Our industrial series production guarantees consistent first-class product quality with an excellent delivery service and is focused on conserving resources and ensuring cost efficiency. Continuously we invest in market innovation and grow alongside our customers.

### **The best products – Made in Austria**

GREENoneTEC develops and produces the best solar thermal collectors and fixing systems in customized OEM versions.

We supply our high performance large-area collectors to solar thermal power plants and our customers trust our innovative system applications on the global market for thermosiphon systems as well.

### **Trademark for best quality**

GREENoneTEC has developed to be the brand for the highest production quality and innovation in the solar market. Praise that brings a lot of responsibility with it. As the driving force in the market we accept this challenge every day to provide sustainable success for our customers.



# TO TAKE OVER THE LEADERSHIP







# STATE OF THE ART TECHNOLOGY

## BEING THE BEST IS THE RESULT OF CONTINUOUS IMPROVEMENT



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### CERTIFIED MANAGEMENT SYSTEMS:

- Quality management according to ISO 9001, since 1996
- Environmental management system according to ISO 14001, since 1997
- Occupational Health and Safety Management System BS OHSAS 18001, since 2014

### PRODUCT CERTIFICATES:

- Solar Keymark
- Austria Solar Seal of Quality (AT)
- Austrian Ecolabel (AT)
- CSTBat (FR)
- MCS (UK)
- SRCC (USA)
- ICC – SRCC Listing Mark (USA)
- DCL – Dubai certification
- Global-Mark® – certification

### Setting global standards

Together with our customers and in close cooperation with leading research institutions and universities we develop solutions with cutting-edge technologies. We also draw our valuable technological leadership from these global collaborations. This results in innovative products, new patents and also in collaboration on standards that set technical benchmarks.

### Quality control

The quality assurance of our products begins in the development phase and ends with the delivery of the products. We test our products according to defined quality and performance

criteria. Collectors and systems are subject to extreme weather conditions and continuous stress at the outdoor testing site of our own test centre. At our indoor test laboratory performance measurements are possible without the influence of weather conditions or seasonal interruptions. The measurements made here satisfy official testing requirements.

### Efficiency, performance and high-tech

Advances in the core technologies of soldering, welding and bonding enable us to manufacture solar collectors to the highest quality in industrial mass production. We create the basis for high-performance products, whose quality

is constantly high and whose price-performance ratio is excellent.

### The most advanced manufacturing in the world

Our collectors are assembled in highly automated robotic production lines. The latest laser and ultrasonic welding technologies are used for absorber production. These technologies were developed by our in-house tooling and plant technology department.



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# BEST CUSTOMIZED SOLUTIONS



## OUR EXCELLENT COLLECTOR RANGE

Aesthetic design and numerous environmental and innovation awards distinguish our collector families. Each individual collector range has numerous customer-specific designs. Hence, we are able to offer several hundred different types of collector variants and countless mounting solutions.

### FK9000 – series tray collector

The GREENoneTEC tray collectors in the FK9000 range are made with a unique quality control system on one of the most modern and fastest robot manufacturing facilities in

the world. A specially designed 2-component adhesive is used as the jointing technology for the tray collectors. The collectors are equipped with a highly selective, coated-aluminium meander or harp absorbers. Thanks to its modular mounting system the collectors can be used for freestanding installation as well as for a variety of different roof-mounted installation types.

### FK8000 – series frame collector

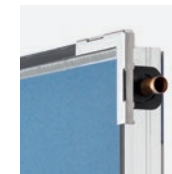
FK8000 series frame collectors are manufactured in lightweight design on an in-house fully automated robot manufacturing line. As connection technology adherence with a specially designed 2-component adhesive is applied.



FK9000



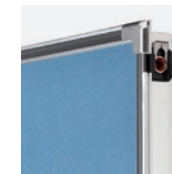
FK8001



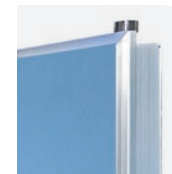
FK8003



FK8007



FK8259 ID



### FK8001 – Mediterraneo

is a product innovation with an optimized ventilation concept and protects the highly selective coated absorber against marine air corrosion. This also reduces the intrusion of drifting sand, making it ideal for use in marine and near-desert regions.

### FK8003 – 7one

The wave frame design with black frame solar glass gives a unique look. In addition to the standard mounting options, such as freestanding or roof-mounted installation, the 7one collector can also be recess-mounted in the roof with its own in-roof mounting kit.

### FK8007 – „The all-rounder“

is the premium product in the range of frame collectors. It has numerous variants with highly selective meander absorbers. The collector's fast-connector technology guarantees short installation times.

### FK8259 Inroof-Collector

guarantees well integrated inroof application by low collector height. The innovative and light weight geometry ensures ease of handling and allows the panels to be easily lifted and placed on the roof.





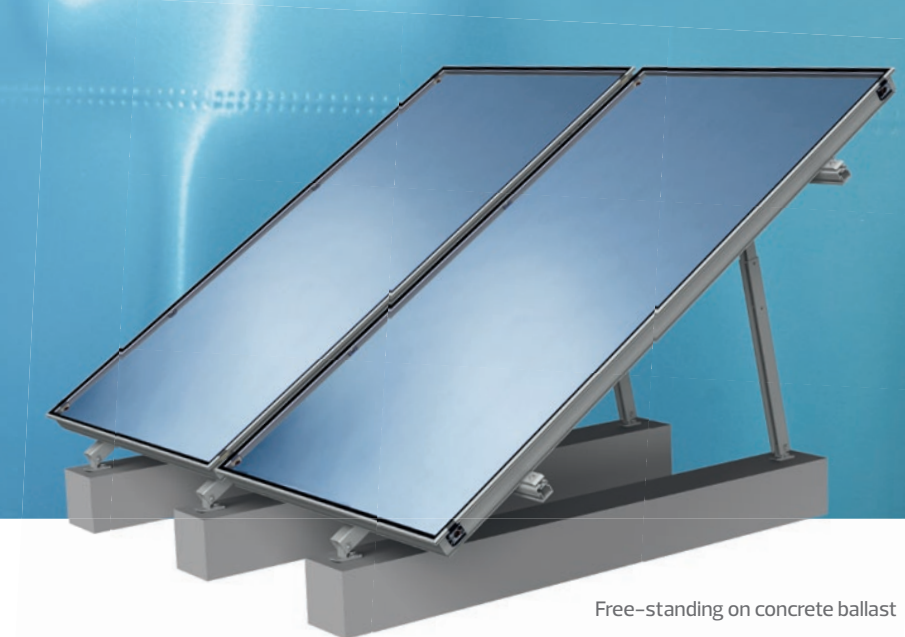
# BEST CUSTOMIZED SOLUTIONS



Meander absorbers developed for excellent stagnation behaviour



Highly selective full-surface absorber with over 95 % absorption



Free-standing on concrete ballast

## THE UNIQUE QUALITY OF OUR HIGH-PERFORMANCE ABSORBER

The GREENoneTEC manufacturing technology for full-surface high-performance absorbers is unique in the market and therefore provides the basis for the decisive advantage of our collectors.

Our meander registers are formed in the fully automated meander bending plant; the harp registers are completed using a fully automatic soldering machine.

### Laser and ultrasonic welding technology

Our production has been designed for industrial mass production based on multi-stage quality assurance procedures and relies on optimized laser and ultrasonic welding technology and a highly automated copper and aluminium semi-finished products manufacture.

### Safe transport packaging

For a perfect product delivery of all the collectors GREENoneTEC transport packaging is designed for maximum product safety and cost efficiency. We offer our customers special reusable packaging solutions for absorbers.

- Ultrasonically welded absorbers in copper / copper from a single source
- Laser-welded absorbers in aluminium / copper from a single source with excellent strength and durability values of the weld seams
- Automated quality assurance concept with 100 % pressure test to 15 bar on all absorbers
- Cost-effective and safe transport packaging
- 0.3 - 0.5 mm absorber panel thickness
- Absorbers in all customer-specific sizes available

## FASTENING SYSTEMS FOR EASY AND SAFE INSTALLATION

### The all-in-one solution

High quality collectors also need an optimal fastening concept. For all collector families GREENoneTEC supplies the best possible fastening systems and accessories for all roof-mounted and free-standing installation types.

### Simple, universal and safe

In the design and the materials the focus is on short installation times and maximum safety in accordance with EN 1991. Kit sizes and packaging are tailored to customer-specific logistics requirements.

### Customer-specific kits and manuals

We offer specific kit types according to individual customer requirements and associated manuals with all installation steps with clear image text passages - on request in the corporate design of our customers.







# PERFECT LOGISTICS SERVICES

## TOP LOGISTICS PERFORMANCE IN PACKAGING AND DELIVERY

### ADDED VALUE FOR OUR CUSTOMERS:

- Year-round supply performance > 99 % even in the seasonal peak months
- More consistent utilisation of production capacity in top products
- Transport and cost-optimised packaging solutions as well as reusable packaging solutions
- Commissioning

### The GREENoneTEC supply chain

A decisive competitive advantage for us and for our customers is our ability to generate a seamless supply chain and hence the associated extremely reliable delivery performance. Our modern high bay warehouse allows us to provide cost-optimised production even during the winter months and to guarantee a constant supply capacity at peak times.

### Logistics services

It is a major logistics achievement to have all required collectors in stock. We offer our customers a delivery reliability of > 99 % even during the seasonal peak months.

Up to 150,000 m<sup>2</sup> of collector area are stored in the 6,400 storage spaces available in the up to 17m high rows of high-bay shelving.

### Customized packaging solutions

Collectors and fastenings for all types of shipping (truck, air or sea) can be packaged flexibly and economically in our own packaging centre. This also includes developing and implementing customized packaging solutions for specific transportation requirements and warehouse management systems.



The plant in Friesach / Carinthia was connected to the local district heating network in 2021. With a collector area of 5750 m<sup>2</sup>, the plant generates around 2.5 GWh/a annually.

The district heating network requires around 15 million kilowatt hours of heat per year, 15% of which is provided emission-free by the large-scale solar thermal plant. This corresponds to the annual consumption of about 500 flats.

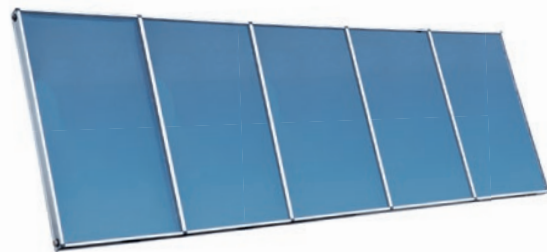
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# LARGE-SCALE SOLAR COLLECTOR

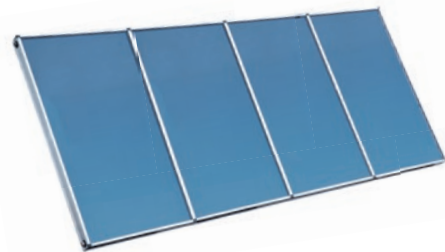
AUSTRIA'S  
LARGEST  
THERMAL SOLAR  
PLANT



GK3003 SERIES  
in the sizes 8 and 13 m<sup>2</sup>



GK3002 SERIES  
in the sizes 5 and 10 m<sup>2</sup>



## GK3003 AND GK3002

The large-size collector series 3003 and 3002 are ideal for applications in the medium temperature range, such as district heating systems, industrial process heat, multi-family residential installations and solar cooling.

The unique anti-reflective glazing (in single or double design) ensures maximum efficiency.

GREENoneTEC provides a 10-year warranty on all large-area collectors!

For the operation of large solar thermal power plants such as district heating and process heating systems, GREENoneTEC has developed its own large-size collectors with special performance features that provide the optimum design for the requirements of large solar thermal power plants.

### Highest performance benchmarks

Due to their special absorber design the collectors in the GK3003 and GK3002 ranges have attractive performance data and properties. The GK3003 demonstrably delivers the current best performance on the market for

applications in the medium temperature range. The GK3003 is available in single-glazed and double-glazed design anti-reflective coating on both sides. In the double-glazed model the duo coated anti-reflective glass increases transmission and reduces reflection to a minimum, greatly reducing heat losses in the process.

### Maximum efficiency for large systems

The GK3003 series features serial interconnections of up to 220 m<sup>2</sup> with reduced pressure losses and the smallest expenditure on piping. The meander absorbers, designed for large

installations, ensure material-saving stagnation and draining behaviour as well as a lower pressure loss.

### Simple installation of the system

An optimised fastening system and easy interconnection massively reduce the expenditure for installing the system by crane. In summary: Maximum performance combined with lowest investment costs for maximum return on investment. And all this includes a 10-year warranty.



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LARGEST  
THERMAL  
SOLAR PLANT  
IN VIENNA

Austria / Vienna

# WE PROVIDE COMPETENCE, EXPERIENCE AND GUARANTEES FOR WORLDWIDE SUPERIOR PROJECTS

**In order to design projects 100% according to your needs and requirements we cooperate with a strong local network of highly experienced engineers, lawyers and accountants. This secures full compliance with all local technical and legal regulations.**


**Engineering**  
We are planning and developing large solar thermal installations for our customers. This includes the initial economic and technical feasibility study, the whole engineering process, proper project planning and the right definition of interfaces with existing heating systems.




**Procurement**  
This includes the procurement of all required materials and components, management of the whole logistics and supply process as well as a thorough technical construction of the installations. Our rigid project management guarantees shortest realization times.


**Construction**  
We offer asset and facility management for the installations during the entire period of operation. We check and document the installations performance on an ongoing basis. These seamless online diagnostics, together with on-site specialists, ensure trouble free, yield optimized operations and effectively prevent production interruptions and unpleasant surprises.




## PARTNER FOR


- District heating
- Industrial applications
- Process heat
- Domestic hot water systems
- Solar cooling
- EPCM




 Saudi Arabia / Riyadh


Collector area <b>36.305 m<sup>2</sup></b> Domestic hot water system	Solar peak performance per year <b>25.4 MW<sub>th</sub></b> 
CO <sub>2</sub> reduction <b>120.000.000 kg</b>  Based on a lifetime of 25 years	Storage capacity <b>1.000.000 Liter</b> 




 Nicaragua / Managua

Collector area <b>4.451 m<sup>2</sup></b> Domestic hot water system	Solar peak performance per year <b>3.1 MW<sub>th</sub></b> 
CO <sub>2</sub> reduction <b>14.500.000 kg</b>  Based on a lifetime of 25 years	Storage capacity <b>60.000 Liter</b> 

 Germany / Chemnitz

Collector area <b>2.230 m<sup>2</sup></b> Solar district heating	Solar peak performance per year <b>1.6 MW<sub>th</sub></b> 
CO <sub>2</sub> reduction <b>7.300.000 kg</b>  Based on a lifetime of 25 years	Storage capacity <b>1.000.000 Liter</b> 

 Austria / Vienna

Collector area <b>656 m<sup>2</sup></b> Process heating	Solar yield per year <b>510 MWh<sub>th</sub> / a</b> 
CO <sub>2</sub> reduction <b>2.132.000 kg</b>  Based on a lifetime of 25 years	<b>EPCM by GREENoneTEC</b> 





# WORLD'S MOST REVOLUTIONARY SOLAR WATER HEATER

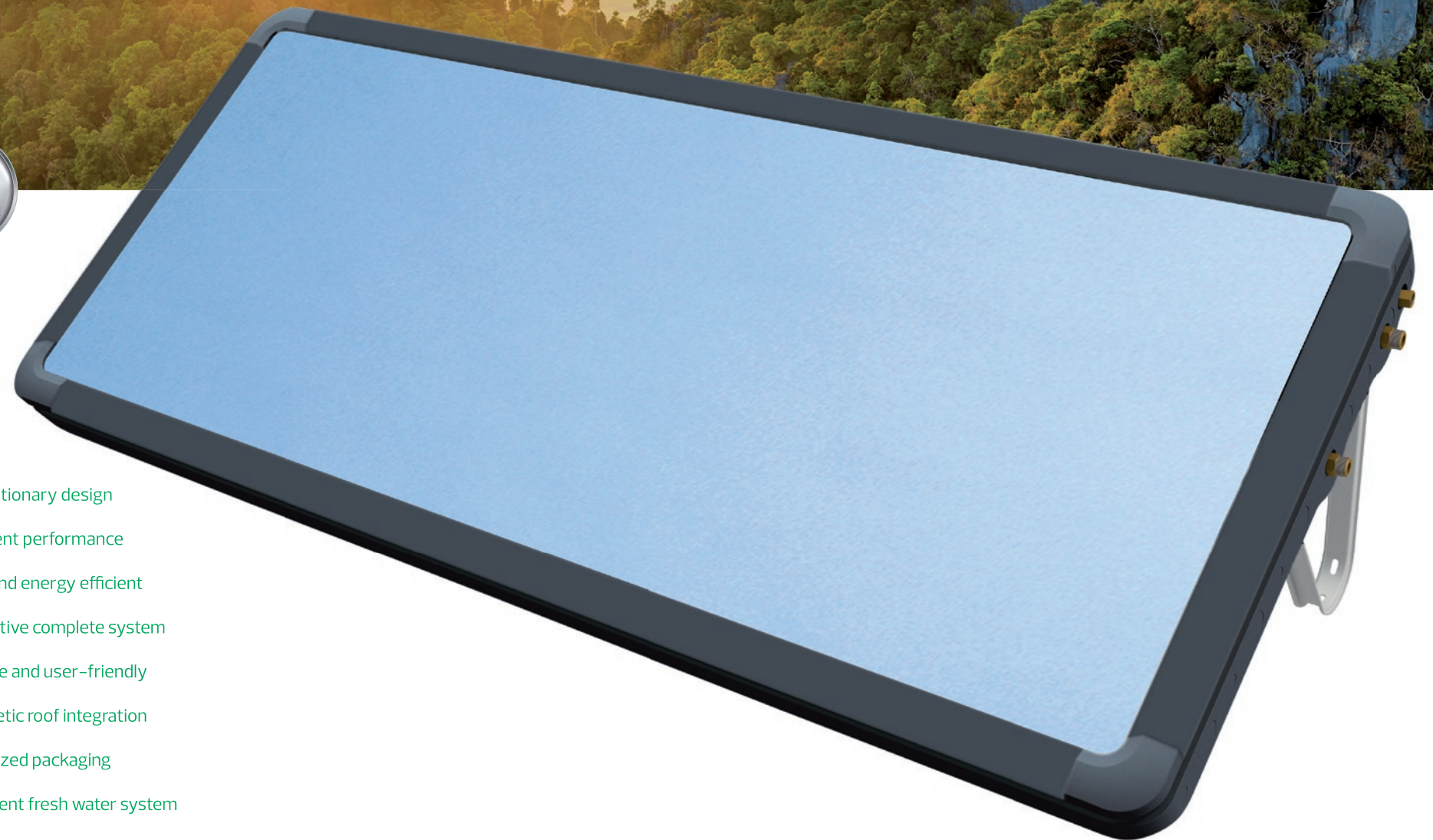


## SUNPAD TURNS THE SOLAR WORLD UPSIDE DOWN

Inspired by nature, we have developed this revolutionary new solar heater for hot water. SUNPAD is less expensive and more user-friendly, innovative and aesthetically pleasing than any previous heater system on the planet. SUNPAD provides sustainably treated hot water at the best price and is the perfect symbiosis of innovation, design and usability. We contribute to significantly influencing the energy habits of the worldwide population through SUNPAD.

The CO<sub>2</sub> saving of one SUNPAD corresponds to 100 huge planted trees. SUNPAD a groundbreaking technology and an unbeatable price-performance ratio. Easy Principle, fascinating result. Tread a path for a sustainable future.

- Revolutionary design
- Excellent performance
- Cost and energy efficient
- Innovative complete system
- Flexible and user-friendly
- Aesthetic roof integration
- Optimized packaging
- Intelligent fresh water system
- **SUNPAD E** with 1kW heating rod



Follow us ...







# MOST SUSTAINABLE COLLECTOR SYSTEM

**GREENoneSOL 1**  
SOLAR FLUIDS



## THERMOSIPHON CLASSIC WITH KNOW-HOW FROM GREENoneTEC

- Best system performance in the world
- Solar Keymark tested
- 2-circuit system
- Natural heat cycle without pump
- No electricity supply required
- Modular system construction
- Five-year manufacturer warranty



The high-performance but attractively priced "Slimline" quality collector is the starting point for the thermosiphon system from GREENoneTEC. The connection lines from the solar collector to the storage tank are well protected by being integrated in the collector. Energy losses are therefore eliminated and the full power of the sun is used for heating water. Apart from the quick and easy installation, this clever solution also satisfies demanding aesthetic requirements. The generated heat can also be stored over a longer period thanks to a special tank insulation.

All thermosiphon systems (160, 200, 300 litres) are designed as "high pressure" dual-circuit systems and thereby guarantee maximum solar yields. This makes a substantial contribution towards cutting costs and saves you money according to the maxim: We don't get a bill from the sun.

## GREENoneSOL-L

### ANTI-FREEZE CONCENTRATE OR FINISHED MIXTURE



GREENoneSOL-L is a heat transfer fluid for solar energy systems with a technical 1.2 propylene glycol (MPG) base, available as a concentrate or as a ready-to-use heat transfer fluid.

- Anti-freeze protection at low temperatures
- Corrosion protection, even for mix installations
- Good transmission of solar thermal power to the storage unit
- To be used with vacuum-tube collectors
- Bio-degradable







# SETTING GLOBAL STANDARDS



## OUR SOLAR HOTSPOT IN MEXICO: EUROPEAN STANDARDS FOR THE WHOLE WORLD

In the American region the demand for solar thermal systems continues to grow steadily. However, high quality European manufacturing standards are still seldom to be found there. Since 2009 GREENoneTEC has closed this gap with the production site in Mexico.

### Mexico as America's hotspot

As the only collector manufacturer in America with a highly innovative laser welding system, we produce high-quality full-surface aluminium/copper absorbers specifically for the American market, but according to European standards.

Economically Mexico is a strategically important production site and production springboard for gaining efficient access to the American market.

### Large production capacity on site

We offer our American customers sufficient production capacity (annually 300,000 m<sup>2</sup>) for the production of absorbers, collectors, thermosiphon and fastening systems adapted to the respective regional market conditions and to the requirements of the respective customers.

### Special-purpose products for the local market

Solar thermal systems are very popular in Mexico and Latin America, especially for water heating in households, hotel facilities and swimming pools. Our efficient mass production also allows especially cost-effective products with European quality for low income groups. Our special anti-corrosion solutions are extremely suitable for installations in coastal areas.

### INFORMATION ABOUT OUR PRODUCTION SITE IN MEXICO:

- State-of-the-art laser welding system for manufacturing aluminium/ copper absorbers in the American region
- Annual production capacity: 300,000 m<sup>2</sup> collector area
- Special solutions with corrosion protection for coastal regions
- Customized easy fastening systems
- Cost-effective systems for low income sectors



## GREENoneTEC – SETTING GLOBAL STANDARDS:

- The world's leading thermal flat-panel-collector manufacturer
- Annual production capacity of 1,6 mio. m<sup>2</sup>
- 28.000 m<sup>2</sup> production facilities in Austria
- 150.000 m<sup>2</sup> storage facilities
- Solar entrepreneur with over 30 years experience
- Extensive product warranties
- Over 250 patented R&D projects

GREENoneTEC 1

Photos: Karl Schrotter, Shutterstock, iStock, GREENoneTEC Archiv, www.GdeFon.com (version 2022-06)

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