



# Because Heat Comes from the Sun

Efficient solar heating systems





Made in Germany - we produce our powerful collectors at our energy autonomous collector factory in Kirchhain.

## Power. Heat. Future

As first-hour solar pioneers, we have successfully collaborated with the sun since 1979. We are a one-stop systems supplier and offer solar power, solar heat, mounting systems and sustainable energy technology solutions with a constantly expanding international distribution network.

In the solar thermal sector, we are one of the leading European solar collector manufacturers.

### Our solar passion

In the same way that we operate as an enterprise, carefully chosen components optimize interaction within our system solutions. Many competitive awards testify to their performance and consistent quality of our solar heating systems.

### Progressing together

We produce and supply high-performance solar heating systems for private users, public facilities and commercial enterprises.

We offer technologically advanced solar heating systems at attractive prices and with very customer-friendly warranty conditions.

### WAGNER SOLAR GMBH

- 1979 Wagner & Co Solartechnik GmbH established
- 2014 Wagner Solar GmbH, Kirchhain and Cölbe
- 65 Employees
- Partner for solar power, solar heating, mounting systems and energy technology
- Distrib. through specialized partner installers, international distribution network.



Entrepreneur of the year 2011



Corporate responsibility award

# Content

<b>SOLAR HEATING</b>	Heating energy of the future	<b>4</b>
<b>ECOshower</b>	Heat recovery	<b>5</b>
<b>SYSTEM COMPONENTS</b>	EURO L20 AR high performance collectors TRIC mounting systems Storage tanks Solar and heating circulators SUNGO solar controllers RATIOfresh freshwater units	<b>6</b>
<b>COMPACT line</b>	Compact all in one system for solar space heating support in one and two family homes.	<b>8</b>
<b>FRESH line</b>	Solar heating system with fresh water units for all uses	<b>9</b>
<b>COMBI line</b>	Solar space heating support with tank-in-tank-storage; for one and two family homes.	<b>10</b>
<b>TOP line</b>	Solar domestic hot water supply for one and two family homes	<b>11</b>
<b>BASIC line</b>	Solar hot water packages for one or two family houses, durable and reliable, attractive pricing	<b>12</b>
<b>SECUterm</b>	Thermosiphon system for autonomous water heating in warm regions	<b>13</b>
<b>SUNtwin/2Power</b>	Power and heat from the same roof Planning and installing together	<b>14</b>



# Help Shaping the Future – Improve Your Heating

Rising energy prices, climate change or personal conviction – there are many motivations to switch to renewable energies. The classic among them is solar heating. The technology is proven, safe and economical.

## Heating energy of the future

While fossil fuels are heading for depletion, the demand for resource and climate sparing heating technologies is growing constantly. Our solar heating systems are the stand-out option to heat economically and CO<sub>2</sub> reduced.

## Solar heating pays

Unaffected by rising gas, oil or power prices, solar heating equips your system for the future. More than 30 years of constant development and our own production ensure the high performance and economy of our installations.

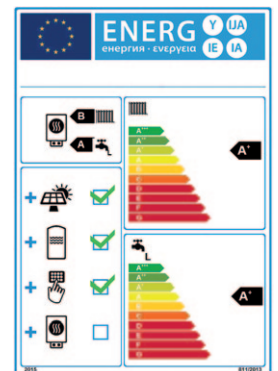
## It's good to know!

Our solar heating systems can be combined with all common heat generators, such as oil, condensed gas or pellet boilers of all renowned brand manufacturers.

## Energy label

Heating products receive an energy efficiency label, just as it is common practice for household products like refrigerators or washing machines. If the various products such as boilers, storage, controller and solar panels are combined, the entire new system receives a joint energy label. The advisory specialist combines the most suitable products for each individual plant and determines the overall system efficiency.

Wagner Solar's high quality solar thermal installations significantly improve the efficiency rating of the heating system.



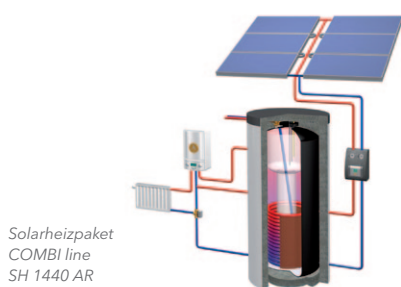


Innovative and sustainable energy concepts are our hallmark and the building blocks of the future.

### Our path to success

We develop our solar systems with high-performance, quality components and assemble them to achieve maximum solar output, repeatedly setting new standards in the market.

- 4/2003 Test victory for our solar heating package SH 1440 AR at Stiftung Warentest (the leading German consumer product testing organization and magazine) in the category "Combined solar installations without gas boiler"
- 3/2008 TOPline solar package BW 480plus: Test victory and most economic system at Stiftung Warentest in the category "DHW preparation systems"
- 9/2010 ÖKO-TEST (German eco consumer testing organization and magazine): DHW preparation systems. The solar package BW 720 AR came out first in the test
- 10/2010 ÖKO-TEST: Installations with space heating support. Test victory for COMBI line SH 1440 AR



### ECOshower heat recovery

ECOshower is an innovative and efficient system for recovering heat from shower water. With ECOshower you can save up to 66% thermal energy while showering. You enjoy the same uncompromised shower comfort as usual while more than halving your shower related gas or oil consumption.

#### Heat recovery from shower water - how does it work?

Normally we only utilize between 20 and 25% of the shower-water heat, while the bulk literally goes down the drain. This is where the modern and comfortable ECOshower systems pitch in.

The heat energy of the draining water is intercepted by a heat exchanger located below the pleasingly designed stainless steel shower drainage. It is then used to pre-heat the cold tap water.

A simple and ingenious idea. A view confirmed by the German Passivhaus Institut, which certified our ECOshower systems.



#### SOLAR HEATING ADVANTAGES

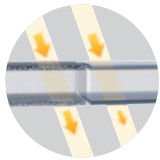
- Free heat energy for space heating and hot water supply
- Unaffected by oil and gas price development
- Ecological and resource friendly
- Low entry costs, solid savings
- Good subsidy and financing conditions
- Active contribution to an energy revolution
- Limitless availability of solar energy

#### WAGNER SOLAR STRENGTHS

- Optimally fine tuned systems
- High quality of all components
- Safe and reliable system operation
- Lasting high yields for maximum energy savings
- Very long lifetime of the solar heating systems
- High-quality TRIC mounting systems for a secure grip on the roof

# Utilize the Sun – Benefit from Our Systems

Our solar packages assure highest efficiency and reliable operation. Their strength lies in perfectly harmonized components – from collector to racking system and from solar controller to storage tank. Quality that pays off.



## High-performance collector EURO L20 AR - Solar Keymark certified

Our EURO L20 AR is one of the most powerful collectors in Europe and the heart of our solar thermal systems. Equipped with sunarc® anti-reflective glass it gives you an up to 10% higher solar yield compared to collectors with standard solar glass. The highly selective vacuum coating of the absorber surface optimally converts light into heat. Losses through heat radiation are reduced to a minimum by means of the generous seamless all-around insulation. The collector is certified with the European certification mark "Solar Keymark".



## This is how modern connection technology is done: plug - click - done

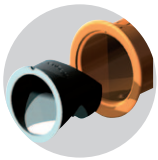
Our EURO solar collectors\* are now available with snap closure. Without any tools and effort the new connecting hoses on the EURO-collectors can be safely and quickly connected with a single hand.



## Our own TRIC mounting systems

The TRIC mounting systems developed by Wagner Solar and produced in Germany allow for flexible mounting options for the solar collectors and guarantee the long term secure and stable footing. The mounting system comes with very few components, going easy on roofing and facade.

\* With the exception of the solar collector EURO L20 MQ



### Energetically optimized storage tanks

Our solar storage tanks, be they DHW, buffer or combined storages, are characterized by a maximum of heat keeping capacity. The combination of generously sized insulation and innovative technology minimizes heat losses during all operation cycles. One example is our patented convection brake CONVECTROL: it reduces heat losses at storage connections by up to 50%!



### High efficiency solar and space heating circulators

The pumps take care to keep your solar system's circulation healthy, balanced and efficient. Thanks to ECM technology the solar circulator provides perfect power at minimized power consumption. ECM technology runs our heating circulators as well.



### Hygienic hot water with freshwater units

With our RATIOfresh freshwater units we can offer you a contemporary and exceptionally hygienic technology for domestic hot water preparation. Its integrated stainless steel plate heat exchanger and state of the art adaptive sensor controls heat your water whenever you actually need it - on demand. Depending on your requirements you can choose from units with various flow rates.



### Intelligent controllers

The members of our clever family of SUNGO solar controllers tirelessly keep an eye on the operation of your solar installation and constantly arrange for smooth and comfortable hot water supply. To fit all sizes and applications, SUNGO controllers come in various versions, for small DHW systems all the way to utility scale process heat plants.

## COMPATIBLE WITH MODERN HEATING TECHNOLOGY:

**Our solar thermal systems are compatible with all common heat generators, such as wood pellet or oil and gas boilers of all brands.**



## COMPACT line

Compact solar heating system with flow through freshwater unit for one and two family homes

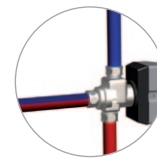
**COMPACT line unites many advantages in a visually pleasing and space saving installation. Flow through on demand DHW preparation, solar space heating support and power saving operation with high efficiency pumps.**

### Convincing design and top efficiency

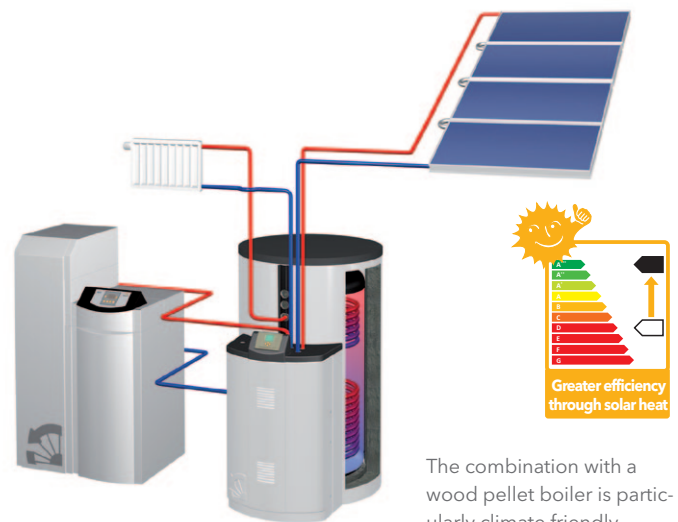
Our all-in-one compact system integrates all state of the art components. Solar circulator, freshwater unit, system controller, storage tank and manifold are combined in a single visually pleasing unit. Excellent insulation of all parts minimizes any potential heat losses. Thanks to the high degree of pre-assembly, the system is extraordinarily easy and fast to install and well suited even for houses without basement space.

### Compatible and future proof

Up to two independent heat generators can be included in the hydronic solar heating system and control, offering free choice of the utilized fuel.



The RATIOcompact unit constantly adjusts the temperature it feeds to the heating system to an optimal level.



The combination with a wood pellet boiler is particularly climate friendly.

SCOPE OF SUPPLY	DETAILS
4 to 6 EURO L20 AR or L20 MQ AR 1 Collector mounting kit 1 RATIOcompact 700 or 1000  1 RATIO 2G buffer storage tank 1 Expansion vessel set 1 Solar heat transfer liquid	10.4 to 15.7 m <sup>2</sup> gross collector area, Solar Keymark certified On-roof (roof parallel), roof integrated-or free standing setup Compact unit with solar system, DHW freshwater unit and hydronic heating connection with integrated controller; mounted directly to the storage 700 l or 1000 l volume  DC 20

Save up to 30% or more of annual heating costs for oil or gas!  
Check with your installer about our solar heating systems!



## FRESH line

Multi purpose solar heating system with freshwater unit

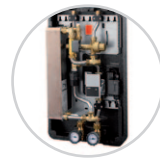
The FRESH line system can be used for solar hot water and space heating. Many combination possibilities make it variable in size. It can be combined with all boilers and delivers hygienic fresh water.

### Efficient and highly versatile

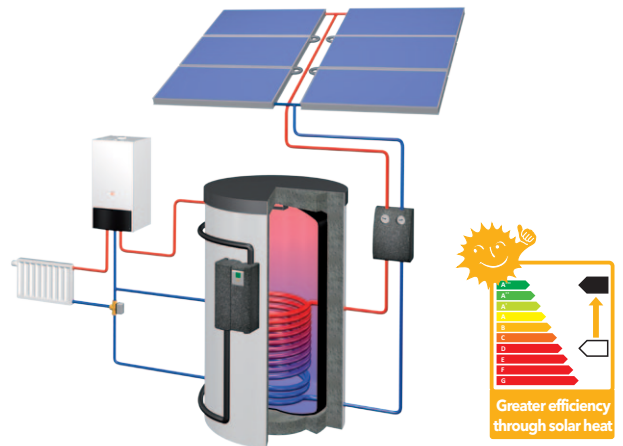
The flexible system is offered in three yield categories, delivering from 20 to 80 liters per minute. Collector fields and storage cylinders also come in various sizes. FRESH line can optimally meet the needs of single, double and multiple family homes, as well as hotels and similar buildings.

The FRESHline MQ packages are suited for slim collector rows. Our EURO L20 MQ collector was specifically designed for horizontal installation and collector fields with up to 50 m<sup>2</sup> collector area in combinations of serial and parallel connections.

FRESH line systems are compatible with all common boilers.



The RATIOfresh freshwater DHW unit assures hygiene by avoiding any microbial contamination..



#### SCOPE OF SUPPLY

- 4 to 12 EURO L20 AR flat plate collectors
- 1 Mounting system set
- 1 RATIOfresh freshwater unit
- 1 or 2 RATIO buffer storage cylinder
- 1 CIRCO solar circulation unit
- 1 SUNGO solar controller
- 1 Canister solar heat transfer liquid

#### DETAILS

- 10.4 - 28.8 m<sup>2</sup> total area, Solar Keymark certified
- For on-roof, roof integrated or free-standing installation
- Type 200, 400 or 800
- With 700, 1000 or 1500 l capacity
- With expansion vessel
- Type 100, 200, 300
- DC 20



## COMBI line

Award winning solar space heating and hot water system for one and two family homes

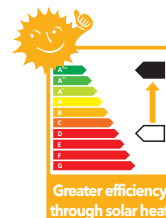
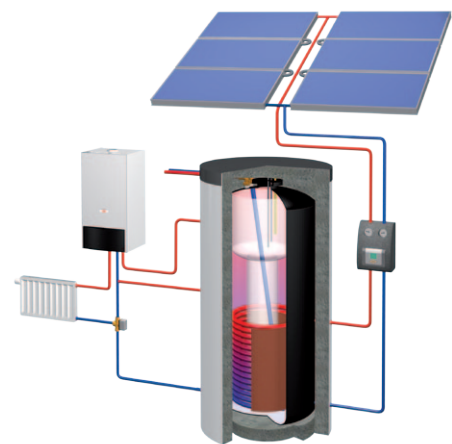
Our COMBI line package received excellent evaluations. It came out top of its class in tests by independent German consumer and product testing institutes (highest yield, most economic).

### Economic and easy to operate

The efficient system saves up to 30% gas and oil and can also be combined with a wood pellet heating boiler. It enables high output at constant temperature.

### Combi cylinders and convection brakes

The tank-in-tank construction makes the TERMO combi cylinder especially compact and the 120 mm polyester fiber fleece jacket insulation gives it outstanding insulation. The patented CONVECTROL convection brake substantially reduces storage losses at the pipe connections.



SCOPE OF SUPPLY	DETAILS
4 to 6 EURO L20 or L20 MQ AR collectors	10.4 - 15.7 m <sup>2</sup> total area, Solar Keymark certified
1 Mounting system kit	For on-roof, roof integrated or free-standing installation
1 TERMO combined solar storage tank	700 or 1000 l capacity
1 CIRCO solar circulator	With expansion vessel
1 SUNGO solar controller	Type 100, 200, 300
1 canister solar heat transfer liquid	DC 20

Save up to 70% of energy for hot water!  
 Inform yourself at your local installer about our solar  
 thermal domestic hot water systems



## TOP line

Solar hot water system  
 for one and two family homes

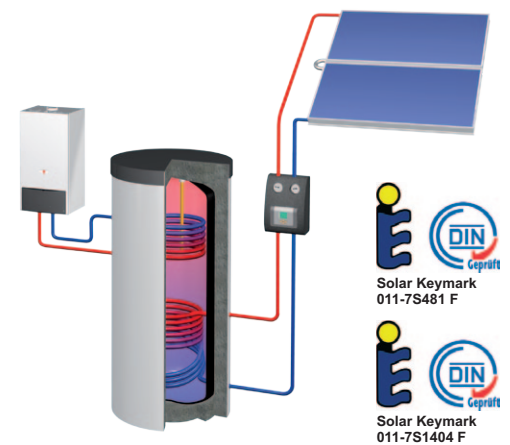
The multiple award winning TOP line hot water system combines the advantages of the high-performance EURO L20 AR collectors with the strengths of the highly efficient ECOplus solar storage cylinder and an intelligent solar circulation unit.

### Perfect price and performance

As the ideal solution for water heating at an extremely fair price, the TOP line system works with generous collector surfaces and strongly insulated components - and at a very fair price. The ECOplus storage cylinder is fitted with two generously sized heat exchanger coils for the solar and backup water heating circuits.

### Optimal system yield

To maximize energy saving, the TOP line system can also be supplied with a power-saving ECM solar pump. Optionally fit it with our patented CONVECTROL convection brakes.



### SCOPE OF SUPPLY

### DETAILS

2 or 3 EURO L20 AR flat plate collectors	5.2 - 7.8 m <sup>2</sup> total area, Solar Keymark certified
1 racking system set	For on-roof, roof integrated or free-standing installation
1 ECOplus solar storage cylinder	300 and 400 l capacity
1 CIRCO solar circulation unit	With expansion vessel
1 SUNGO solar controller	Type 100, 200, 300
1 canister solar heat transfer liquid	DC 20



## BASIC line

Cost-effective solar water heating system

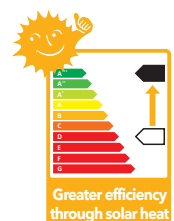
With our hot water system BASIC line we offer an inexpensive and solid entry to the efficient use of solar heat.

### Efficiency in a small space

The BASIC line solar heating system has a collector surface area of only 4.5 to 6.75 m<sup>2</sup> and yet allows to cover about 60% of the annual hot water demand. In view of rising energy prices BASIC line also is an economically worthwhile investment for both new and existing buildings.

### Solid solar hot water storage cylinder

A continuously improved design, tried and tested in thousands of installations. Excellent insulation, proven efficiency and durability.



SCOPE OF SUPPLY	DETAILS
2-4 EURO L42 HTF or L22 AR collectors	4.48 - 8.96 m <sup>2</sup> total area, Solar Keymark certified
1 Mounting system kit	For on-roof, roof integrated or free-standing installation
1 ECO solar DHW storage tank	With 300, 400 or 500 l capacity
1 CIRCO solar circulation unit	With expansion vessel
1 SUNGO solar controller	Type 100, 200, 300
1 Canister solar heat transfer liquid	DC 20



## SECUterm

Thermosiphon-System – solar hot water, safe and reliable

**Proven thermosiphon hot water system for tropical and subtropical regions. With innovative overheat protection.**

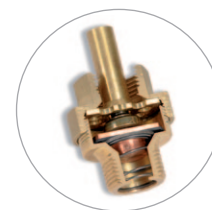
### Top class solar collector

SECUterm 160/200, equipped with the powerful solar collector EURO L42 TS and an optimized thermal insulation system, sets the gold standard among thermosiphon systems. Of all the listed and Solar Keymark certified systems of this class SECUterm achieved the highest yields (for location Athens), as determined by a comprehensive systems analysis of SECUterm at the Test Center Saarbrücken (TZSB).

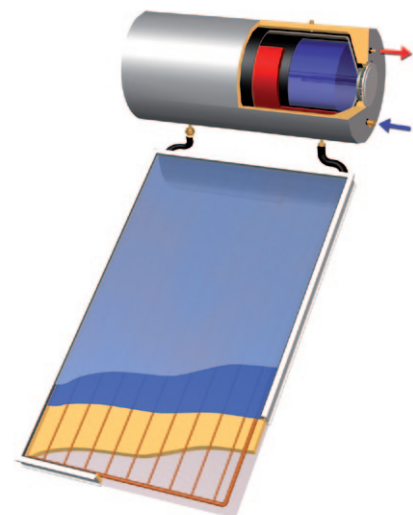
The system features an innovative and secure thermostatic overheat protection limiting the solar hot water storage temperature to 80 °C.

- Low maintenance at high life time
- No loss of solar fluid
- No freshwater loss from overheating

Extensive pre-assembly and detailed mounting and operating instructions guarantee a simple assembly and operation. The system is available in different sizes and suitable for households from 3 to 6 persons.



*Thermostatic overheat protection – perfection in detail*



SECUterm 160 P, 200 P and 300 P are Solar Keymark certified



### SCOPE OF SUPPLY

- 1 or 2 EURO TS collectors
- 1 Mounting system kit
- 1 Solar DHW storage tank
- 1 Canister solar heat transfer liquid

### DETAILS\*

- 2.24 - 4.48 m<sup>2</sup> total collector area
- For free-standing or on-roof installation
- With 160, 200 or 300 l capacity
- DC 20

\* Solar Keymark certification of the complete SECUterm 160 P, 200 P and 300 P systems



**SOLAR-MARKETING-  
AWARD 2012**  
for SUNtwin by LG Solar

## Solar Power and Solar Heat - From Your own Roof!

### SUNtwin

We developed SUNtwin as a package optimally fine tuned for families: one solar system for electricity generation together with a second solar installation harvesting the sun's heat - united on a single roof. The integrated state of the art freshwater unit takes care of hygienic and energy efficient on-demand hot water preparation.

### Smart energy mix

Cleverly sizing the SUNtwin solar heating and power components allows to achieve an optimal cost-benefit ratio. The self consumed solar electricity reduces your annual power bill while at the same time increasing your energy freedom from utility companies and price hikes! The generated solar heat covers up to 30% of your annual heating demand.

### 2Power Hybrid Solar Module

The 2Power hybrid module combines photovoltaic and solar thermal in a single module, simultaneously generating electricity and hot water. Visually, a 2Power hybrid module is no different from a black standard PV module. If desired, the remaining roof surface may therefore be completed with standard modules. The resulting design is a visually uniform and harmonious surface.

### The total solution with the 2Power system

2Power is an integrative energy concept that. While generating household electricity for self consumption, can, for example, be used for the following applications:

- Small systems for domestic water heating to 60 °C and space heating support
- Direct or indirect heat source in combination with heat pumps
- Regeneration of ice and ground storages
- Refitting worn geothermal probes of heat pumps
- Solar swimming pool heating
- Commercial applications with low temperature process heat
- Ideal for passive house and energy-plus-house concepts



**Invest into your liberty now and  
become an energy winner!**



## Are You Ready for Solar Heat?

### The next step

Now contact your solar installation partner or get in touch with us. We will gladly recommend a suitable installer.

### Plan together

Work with our selected specialist installers to quickly and reliably make your solar heating project come true. Thanks to their many years in the industry, the training we regularly offer them as well as our individual planning tools, your installation will be optimally customized to your needs.

### Additional benefits

Installations we have planned receive the Wagner Solar safety certificate. We also offer our customers additional benefits such as taking back used installations and collectors, insurance (glass breakage, lightning damage) and a qualified network of installers.

### Attractive subsidies in some countries

In some countries attractive funding and promotion is available for solar heating installations and pellet boilers. Read up on quotations or ask your local solar installer.

### FUNCTIONAL GUARANTEE

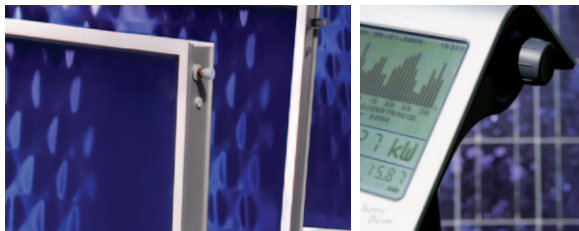
We are convinced of the high quality of our products and offer you functional guarantees beyond the legally required 2 years for the following products:

<b>Flat plate collectors:</b>	10 years*
<b>Solar storage tanks:</b>	5 years*
<b>TRIC Mounting Systems:</b>	10 years*

\* Please refer to our home page or contact us directly for detailed warranty conditions.

# Power. Heat. Future

We are solar pioneers with foresight and have been successfully working with the sun for more than 35 years. As a one-stop systems supplier we stand for integrated sustainable solar power, solar heat, mounting systems and energy technology.



## OUR PRODUCTS

### Solar power systems

- for private residential buildings
- for public facilities
- for commercial enterprises
- for agricultural applications
- for off-grid projects
- for investors

### Solar heating systems

- for private residential buildings
- for public facilities
- for commercial enterprises
- for agricultural applications

### Heat recovery

- for private residential buildings
- for public facilities
- for commercial enterprises



Wagner Solar has a constantly expanding international distribution network.