Intersolar Europe is presenting a wealth of new products. They range from collectors and storage tanks to solar stations and controllers.

Just after the Mostra Convegno in Italy (see page 70) the Intersolar will be one of the most important exhibitions for the solar thermal sector. Especially since the International Sanitary and Heating Exhibition (ISH) won’t take place this year. On the following pages we will present a selection of interesting new products that will be presented in Munich.

Collectors & absorbers

GREENoneTEC Solarindustrie GmbH from Austria has their new FK9250 tray collector on display, which will be available in the second half of this year. The collector is equipped with a highly selective coated meander absorber, which empties itself as required to avoid any problems in the case of stagnation. The meander is designed for turbulent flow to ensure good heat transfer even in low-flow systems. The meander absorber is manufactured using a bending machine developed in-house and installed last year.

The collector has a new fastening system that allows quick installation and provides especially high stability. The hydraulic installation is also quick and easy because the connections can be made without using tools. Up to ten collectors can be connected in parallel.

The visual appearance of the collector is distinguished by its glass cover strip and the special design of the corners. The collector is certified with the Solar Keymark. GREENoneTEC provides a 10-year guarantee.

Booth: B2.220

The Italian company Sistemi Meccanici Industriali S.r.l. (SMI), a manufacturer of production equipment, will show their work cells for the production of aluminium solar collectors. SMI designs and manufactures machinery, equipment and tools for the tube processing industry. These include standard opera-
www.sunwindenergy.com

- new design
- new technology
- new advertising offers and
- more topic-oriented placements

Media data at www.sunwindenergy.com/magazine/mediadata
SMI will present machinery for tube processing and other production tasks. Photo: SMI

As aluminium is becoming popular both as a material for absorber sheets and for absorber tubes, SMI is cooperating with other European manufacturers to supply a complete range of machines that include brazing of aluminium-to-aluminium and aluminium-to-copper tubes. The machines are supplied as production cells that can be integrated into existing production lines and carry out various production steps, depending on the needs of the customer: the cells emboss the PVD coated aluminium sheets from the coils, cut them to size, slot them and automatically position them onto the incoming copper or aluminium harps. If required, the cells may include copper and aluminium brazing machines, leak test equipments and twin head ultrasonic welders, capable to weld aluminium sheets to copper or aluminium harps.

The work cycle is equipped with quick-change-over systems and can produce a welded harp in a fully automatic process capable of producing 30 ultrasonic welded panels per hour. According to SMI, during the last year, three existing production lines for two European and one Asian collector manufacturers were integrated with SMI’s automatic ultrasonic welding cells.

Booth: B2.150

Apart from selective coatings on aluminium, copper and steel collector frames, Arceo from Belgium now offers complete tailor-made steel absorbers with selective coating.

According to Arceo, these absorbers offer high efficiency at a stable and reduced price, due to the large contact area between the fluid and the metal plates.

Booth: B1.280

SunWin Energy Systems GmbH from Austria presents a new series of hybrid collectors. There are four models in the new series: the peak electrical power is either 145 W or 193 W and each of these two variants is available with two or four hydraulic connections. A harp array or double harp array is used for the absorber accordingly. The absorber plate is made of highly selective coated aluminium. The hybrid collec-

Arceo now offers complete tailor made steel absorbers with selective coating. Graphic: Arceo

SUNEX S.A. ul. Piaskowa 7 PL-47-400 Racibórz Tel: +48 32 414 92 12 Fax: +48 32 414 92 13 www.sunex.pl E-mail: info@sunex.pl
Love My Sunshine Life

Providing solar hot water solutions in more than 100 countries and regions

Let's shot amazing lifestyle with solar water heater

www.solarphotoaward.com
The start-up company Weppidoo will exhibit at this year’s Intersolar for the first time. According to Weppidoo, the unnamed shareholders have a long history in the development and distribution of solar panels. Weppidoo will present their new collector WEPPPI, a tube collector with an integrated tracking system. It is designed to reach high temperatures, even in cool climates. According to the manufacturer, WEPPPI is 98% recyclable.

Booth: B1.684

The booth of s-Power Entwicklungs- und Vertriebs GmbH, Germany, has a number of new products and updates to existing products on display.

The new FK251 BlueLine flat-plate collector has been added to the product range. The collector has a “Wave Design” aluminium frame and is equipped with prismatic solar glass, which makes it more visually striking than other similar products. The collector has a total surface area of 2.51 m² and weighs 38 kg when empty. The collector housing is not only highly thermally insulated but also seawater resistant. The interior contains a highly selective coated absorber consisting of an aluminium plate and a copper pipe harp array. Another special feature is the ventilation system that prevents the collector from steaming up and also prevents the

Booth: B1.130
penetration of dirt. The FK251 BlueLine can be installed at inclinations of 15 to 75° on a pitched roof, flat roof or freestanding. The FK251 BlueLine is certified with the Solar Keymark and carries the “Blue Angel” RAL eco-label.

S-Power has reworked their DF (Direct Flow) and HP (Heat Pipe) series of vacuum tube collectors. The Heat Pipe collectors are now supplied in a silver-grey anodised housing. The collectors and pipes are now easier to connect via the Easy Click system. This new design allows the vacuum tubes to be simply plugged into the collector, where they automatically latch into place. Multiple collectors can also be connected in series using a new connection system that requires no tools and which latches to the collector fastening system. S-Power has also reworked the collector connector sets to match the new connection system. The collectors no longer need to be opened on the roof.

Booth: B1.664

Solimpeks Solar GmbH, Germany, will present the new version of their Volther hybrid collector. This collector was first presented in 2009. It simultaneously generates heat and electricity. The update is flatter and lighter than the previous model. This looks more stylish and makes installation easier. The manufacturer is however more enthused by the performance improvements. The new Volther now delivers a peak power of 190 W.

Booth: B1.525

Magen eco-Energy Ind., Israel, has their brand new eco-Flare Pro plastic collector on display. All components of this collector are made of plastic – from the absorber, through the frames to the cover pane. This is a special polyolefin polymer that is especially resistant to pressure and heat. It is capable of withstanding high stagnation temperatures when dry or when the collector is filled with liquid. The collector has been tested at pressures of up to 1,000 kPa. The recommended operating pressure depends on the water temperature. This is 16 bar at 20 °C, 10 bar at 40 °C, 6 bar at 60 °C and 4 bar at 80 °C.

Even the absorber inside is made of plastic. The risers consist of multiple individual tubes made of specially formulated polypropylene. The tubes are connected using Magen’s over-moulding technology to two parallel manifold headers featuring a special patented design.

Anti-freeze is not required in the plastic collectors because the plastic components expand with the expanding ice. The ductility of the plastic material and
the geometrical form of the manifold headers absorb the volume change of the water when freezing (up to -10 °C). Thus the collectors can be used in geographical regions where occasional night frost occurs, without requiring a combination of anti-freeze and heat transfer fluid in the water tank.

The manufacturer guarantees the system to -10 °C. The lack of anti-freeze means that a separate solar circuit is not required. The four “press fit” connections allow quick installation of the collector.

The empty collector, with a total area of 2.15 m² and an aperture area of 1.85 m², weighs only 15 kg. According to the manufacturer, the plastic also ensures that the collector is less susceptible to scaling. The plastic is corrosion-resistant. Since the processing of plastic requires less energy in comparison to metals and glass, the collector also has good energy balance figures. In addition, it can be easily recycled at the end of its service life.

The young Italian company FDE Solar S.r.l. will exhibit at the Intersolar 2012 for the first time with their own booth. It was established in 2010 as a direct spin-off from the FDE SpA parent group, a major producer of copper, iron and stainless steel heat exchangers. FDE Solar’s goal is to become an OEM provider of solar collectors with cover shells from aluminium or aluzinc, steel with an aluminium-zinc coating. According to FDE Solar, the new collectors will be especially resistant to atmospheric agents, integrate well with the roof and have low production costs. The absorber will be laser welded and made from aluminium or copper, produced by “major market suppliers”. FDE Solar will use glass that is prismatic on the outer side and plain on the inner side. Using the parent company’s experience, FDE Solar will also provide own connection kits. The so-called “speed connections” are made of brass and have a double O-ring security sealing system. A very special feature is the thermostat pocket connection, which allows temperature measurement inside the main collector pipe.

The young company SCH.E.I.D.L. UG (Scheidl), Germany, represented for the second time at Intersolar this year, also has new controllers on display. The controllers usually control the entire heating system and not just the solar energy system. The Scheidl controllers have no displays on the devices. They are controlled via a computer, tablet or smart phone instead. A web interface in a web browser is used for this, which means that you do not need to install a special app and the system is platform-independent.

A new feature is the user interface with coloured charts that can be used (e.g.) to display the energy use in each room over time. For example, after
We are moving forward with resolute steps towards our targets...

“feel the sun with Ezinc”

http://www.ezinc.com.tr
High-tech, high precision and user-friendliness are qualities of all DTEC systems. Varied tasks can be accomplished easily and securely.

Our modular construction allows us to offer even small companies affordable solutions that can be expanded at anytime according to requirements. Premium quality with the highest performance: the PULSPEED product range with the models 278, 556 and 556² and the high-light PULSPEED BENDER, which integrates bending and welding in one patented process. Through a special system DTEC absorbers have between 5 – 6 % more efficiency.

DTEC is the world leading company in the field of laser technology solarabsorber.

Please contact:
DTEC dynamic technology GmbH
Pyhrn 5
A-4582 Spital am Pyhrn
AUSTRIA
Phone:  ++43 7563 20681
Fax:  ++43 7563 20681 – 30
Email: office@dtec.at
www.dtec.at

Another areas of expertise – your advantage:
- pipe processing (punching, bending, forming …)
- soldering/brazing technology
- welding technology MIG/MAG/WIG/CMT …
- adhesive- and foam applications
- robotics- and special solutions
- handling-/press- and tolerance-compensating systems
- modular production lines
- linking assets
- quality testing (leak proving …)
- visualization and data capture
- maintenance-/test- and servicecenter

With their Solarcheck Mobilcenter Kompakt, ZUWA-Zumpe GmbH from Germany, shows that it is renovating a building the customer can use this feature to see the actual energy improvements for each room.

Scheidl offers controllers in three housing variants. The Custom housing variant is suitable for wall installation. This provides space for a controller and up to two expansion cards. The Professional variant is intended for installation in switch cabinets and fuse boxes. In this case the controller and expansion cards have their own housing. The Naked variant is for customers wishing to use their own housing. With this version the expansion cards are stacked on top of the controller board. The controller board has 24 separate temperature inputs, a 0 to 10 V output and four relay outputs. A new addition to the range of products is the expansion module with pulsed input and output. Also new: temperature sensors supporting wireless communication with the controller. The battery is charged by a PV cell. When fully charged it can function for up to six days in complete darkness.

**Booth: B2.170A**

---

**Stations, controllers & sensors**

At Intersolar Europe 2012 Chromagen, Israel, will show their new i-thermo solar system. I-Thermo consists of an in-house hot water digital controller with a display and a solar tank. According to Chromagen, it is the first of this kind for thermosiphonic systems, but can also be used for forced circulation systems. It integrates the sun-heated water system with electric heating backup.

The system optimizes energy usage and shows in the display the status of the hot water in the tank. To make it more intuitive, it tells the user how many showers are still possible with the heat remaining in the tank. The colour of the display also changes: if there is not enough hot water left for a shower, the display colour changes from red to orange or blue. The system is, of course, programmable because not every user has the same requirements for shower temperature and duration.

At the end of each day, I-Thermo informs the user how much electricity was saved by using solar energy.

**Booth: B1.520**

With their Solarcheck Mobilcenter Kompakt, ZUWA-Zumpe GmbH from Germany, shows that it is
always possible to improve the details of filling stations. The new small units have a retractable telescopic handle and fit upright in the trunk of a VW Golf. The station is leak-proof when upright and lying down, so it is not a problem if it is accidentally tipped over. The telescopic handle has a soft grip and can be adjusted to heights from 78 to 110 cm. A handle on the rear side allows the device to be conveniently carried with one hand. The 90° return connection is also new and prevents the hose from kinking.

As before, the customer can choose between the convenient Solarcheck Mobilcenter Unistar and the simpler Solarcheck Mobilcenter P80 – with these two models replacing the compact version of the previous devices.

Sorel GmbH Mikroelektronik is exhibiting new solar controllers and system controllers at Intersolar. The TDC solar controls are available in four sizes, indicated by an alphabetic prefix: STDC with a single relay output for small systems, MTDC with two relay outputs for medium-sized systems, LTDC with three relay outputs for large systems and XTDC with seven relay outputs for extra large systems. Every controller is available with motor speed control and 0 to 10 V/PWM outputs on request. Sorel says that the flexibility and user guidance have been improved in the new controllers. Unused relays can be freely programmed as desired. A full-text menu guides the user step by step through the process.

The XHCC system controller can be used to control heating systems with multiple heat sources. The user can choose from several basic plans already programmed into the controller. The user can extend the basic plans with additional pre-programmed functions, e.g. for an additional wood-fired boiler or an additional thermostat.

Many of the new controllers are equipped with a CAN bus. This makes them network-capable for monitoring, data logging and remote parameterisation. The SOREL Connect networking concept allows remote maintenance of the system via a PC, tablet or smartphone.

Booth: B1.1286

The Sorel TDC solar controllers are available in a number of different sizes.

Resol Elektronische Regelungen GmbH, Germany, will present their new DeltaSol DX heating controller, which is capable of controlling a weather-dependent

The Sorel TDC solar controllers are available in a number of different sizes.

Photo: Sorel

The Zuwa filling stations are easy to carry.

Photo: Zuwa

The Sun Master headquarters is the most modern Solar Energy industrial building in Europe.

The right way to generate energy.

Sun Master is the leading provider of thermal solar energy systems in Austria, and turns to the sun to generate sustainable energy. Sun Master has set completely new standards in the manufacturing technology for solar collectors. Over 30 years experience and the highest quality standards make Sun Master your competent partner for solar thermal energy.

Be sure to visit us at www.sun-master.at or at one of our upcoming specialist exhibitions:

- Energetika | hall K 1 | stand 30
- Genera | hall B 1 | stand E02
- Intersolar Germany | hall B1 | stand 530

Sun Master Energiesysteme GmbH
Solarstraße 7 | Gewerbepark A
4653 Eberstalzell | Austria
www.sun-master.at
heating circuit, domestic hot water charging and the associated reheating. Among other features, the controller offers thermal disinfection, a time-controlled thermostat function and a drain-back option. The DeltaSol DX plus has eight sensor inputs and five relay outputs. The controller also has two PWM outputs for controlling high efficiency pumps. As if this is not enough, a maximum of two EM expansion modules can be connected via the VBus to provide a total of 21 sensors and 5 relays. This makes the controller very flexible and also suitable for large-scale applications such as multi-family homes or care homes.

In addition to the EM expansion module, Resol also offers the DL3 data logger allowing the acquisition of data from up to six controllers. The data logger displays the data on a graphical display, stores it on an SD card or transfers it via LAN to the building control system or a computer for further evaluation.

Booth: B1.590

Siko Solar GmbH from Austria will present their new Kombibox. The Kombibox contains everything needed for a solar system except for collectors and tanks. Externally visible are only the four connections for the two tank heat exchangers, supply and return for the heat pump and supply and return for the solar circuit and brine manifold, with the controller display and control elements protruding from the top of the Kombibox. This is truly a plug-and-play system. A photovoltaic system can be used for powering the heat pump.

According to the manufacturer, the Kombibox can be used in single-family homes and multi-family homes. Siko Solar specifies possible solar array sizes from 8 to 30 m². The Kombibox is 96 cm high with a footprint of 53 x 70 cm.

Booth: B2.230

Technische Alternative (TA) Elektronische Steuerungsgerätegesellschaft m.b.H., Austria, has new wireless sensors on display at Intersolar, which operate in conjunction with the manufacturer’s own solar, heating and universal controllers. The advantages of the wireless sensors: they can be

Photo: Siko Solar
quickly and easily retrofitted to existing systems. For example, an irradiation sensor can be easily installed on the roof, which sends the current irradiation measurements to the receiver in the boiler room and allows the start-up behaviour of the solar thermal system to be improved. This allows more exact control of the priorities of the different circuits in multi-circuit solar systems. The GBS-F+KFPT version also includes a PT1000 collector sensor.

The wireless transmission can easily penetrate (e.g.) two reinforced concrete ceilings between sensor and receiver. The open air range of the wireless link is over 1,000 m. The GBS-F sensor has an integrated solar cell, which means that you do not need to climb onto the roof to replace batteries.

Those wishing to control the room climate instead of the solar system can use the RAS-F/F, which (e.g.) measures the room temperature and humidity and sends this information, with the desired operating mode, to the heating controller. The battery in this sensor must be replaced after approximately three years.

Based on the 868 MHz wireless system, up to eight wireless sensors can be connected to the DL bus via the RCV-DL wireless receiver. This keeps the sensor inputs at the controller free for other applications.

Booth: B1.464
Apricus Solar Co. Ltd from China will present their new multi-functional differential controller for solar thermal plants. Various software packs are available allowing the controller to handle different applications, depending on the customer’s needs.

The controller has a backlit LCD display showing key system data such as temperatures and energy as plain text. The full functionality is only accessible in installation mode, so end users are limited to basic functions.

The controller has one input for a PT1000 sensor ranging from -40 °C to 200 °C, four PT1000 sensors ranging from -20 °C to 105 °C, three dry contact signal inputs and one input for a Grundfos VFS flow and temperature input. On the output side, it has one 4 Amp variable speed semiconductor relay and three 5 Amp standard relays. The controller logs data on a SD card – a 4 GB card is included in the package.

Booth: B1.630

The Danish Grundfos Group will present a new Vortex flow sensor under the Grundfos Direct Sensors trademark. The new sensor’s name is VFI, which is short for “Vortex Flow sensor Industry”. As the name suggests, it is the industrial version of the Grundfos Vortex Flow metre range. It can measure flow rates from 0.3 to 240 m³/h. According to the data sheet, it is approved for potable water, but is also compatible with aggressive media. The main

“The BISON” ultrasonic full plate welding machine for Omega-joints

1. No destruction of the coating with a higher overall efficiency
2. Better heat transfer from fin to tubing
3. No bi-metal effect by using copper tube and aluminium sheets
4. Any pipe material, such as copper pipes, stainless steel pipes or aluminium pipes are suitable
5. Outstanding flatness without waviness
6. The “BISON” is universally applicable for full plate absorber or stripe absorber

Visit us: Intersolar, Munich
Hall: B.1, Booth: 381

The “BISON” welds an Omega Shape thin aluminium fin on the back of the coated absorber fin.

The advantages are as follows:

Ultrasonics Steckmann GmbH
Hauptstraße 24
D-61279 Grävenwiesbach
Tel: 0049 - 6086 1818
E-mail: mail@ultrasonics.de
Internet: http://www.ultrasonics.de

(Patent pending)
new development is the combination of the known Vortex Flow sensors with the metal-glass coating “Silicoat”. Basically, the new sensor works like the other Vortex Flow sensors: inside the Vortex Flow sensor a bluff body is located in the middle of the pipe, within the path of the fluid. As fluid passes this bluff body, disturbances in the flow, called vortices, are generated. Downstream from the bluff body, is a Grundfos Direct Sensor that can detect the pressure pulses in the flowing fluid. If the fluid is not flowing no vortices form, but as soon as the fluid starts flowing and reaches a certain flow rate vortices are created at the back of the bluff body. The vortices detach periodically from either side of the body and are carried downstream. Zones of high or low pressure are now created down the stream and this phenomenon is known as the Von Karman Vortex Street. The pressure differences match the frequency of the vortices and the length between two vortices corresponds to a defined volume of fluid. Therefore a total flow can be calculated by counting the vortices as they pass. At increased flow, the frequency of the vortices increases directly proportional to the flow in a full pipe. The sensor detects the pressure pulses generated by the vortices, and converts the calculated flow volume into an electrical output signal.

One advantage of this measuring principle is that there are no moving parts, which makes it a cost-effective and robust construction. Solar energy systems are just one application suggested by Grundfos for the new sensor. Other possible applications are heating systems, water management and water treatment.

**Booth: B1.546**

**Solar tanks, expansion tanks and piping**

Among other products, the storage tank manufacturer Rikutec Richter Kunststofftechnik GmbH & Co. KG, Germany has their RTE series of underground storage tanks on display. They are made of sturdy plastic and therefore guaranteed to be rust-free. They are internally equipped with a heat exchanger, filling and draining pipes, and an immersion and layer pipe of corrugated stainless steel. The Riku‘Therm RTE 600 has a capacity of 600 L and requires an excavation depth of 2.10 m for installation. The RTE 800 has a capacity of 800 L and requires an excavation depth of 2.50 m. The underground storage tanks can be operated up to a maximum operating overpressure of 3.0 bar. The tank has a fresh water heat exchanger that avoids any potential problems with Legionella bacteria.

The shaft cover provided can carry loads of up to 150 kg. A wheel load of up to 5 t can be supported when using a concrete shaft cover. All connections are located on a stainless steel cover on the upper side of the tank.

**Booth: B1.661**

---

**ALL FOR ONE, LOVATO FOR ALL**

The new champions for energy distribution, management and accounting joined with the production modules for domestic hot water for energy efficiency.

**LOVATO S.p.A.** Via Selva, 4/a - Gazzolo d’Arcole VR - ITALY
Tel. +39 045 618 2012 Fax +39 045 618 2017 - info@lovatospa.com
Discover the full range of our solutions www.lovatospa.com

**Distribution System up to 800 kW – District heating Modules with energy accounting - Separation systems - Systems for domestic hot water - Solar Modules**

Sun & Wind Energy 5/2012
Pre-insulated corrugated piping can be seen at the booth of Thermaflex Isolierprodukte GmbH, Germany. The stainless steel corrugated piping from the Flexalen HT system is already jacketed with insulating material and a flexible protective sheath that resists UV radiation and bird damage. A twin-conductor sensor cable is integrated into the pipe. Flexalen HT resists constant temperatures of up to 150 °C and short-term temperatures of 175 °C, is recyclable and has a range of matching accessories.

Booth: B1.166

Ayvaz will present its Nano Insulated Solar Connection Hoses. They are manufactured from stainless steel (AISI 316L). In addition to the polyamide braiding the separable solar hoses are insulated with rubber based EPDM material. Ayvaz is also preparing a new generation of solar connection hoses named Nano-flex, manufactured using the nanotech insulation material Pyrogel XT.

The Nano-flex hose is designed especially for extremely high and low temperature applications and tough external conditions. The Pyrogel XT is derived from the world’s lightest insulation material called Aerogel. It has a low value (0.02 W/mK) and is suitable for a wide temperature range, from -40 °C up to +650 °C. The insulation is only 5 mm thick and reduces the external diameter of the hose. This reduces transportation and logistics costs by up to 66 %.

Thanks to the design no additional pipe support is required during the installation, which makes it quicker and easier to install and shortens the installation time. The UV cover externally applied to the insulation counteracts the negative effects of the sun and protects the hose against damage caused by birds and vermin.

Booth: B1.220

Miscellaneous

The booth of the heating technology supplier Wolf has the new ComfortLine gas-fired solar centre, or CSZ, on display. The CSZ-300 consists of a gas-fired...
device, a solar tank, a solar pump group including a solar controller, a 25 L solar expansion tank and a collecting container for solar fluid. According to the manufacturer, with this combination the CSZ-300 offers 60 % solar coverage for buildings with a utility floor space of up to 150 m².

Wolf is also exhibiting the TopSon F3-1 high efficiency flat-plate collector, which is tested according to EN 12975 Part 2.

Booth: B1.310

Dr. Valentin EnergieSoftware GmbH, Germany, has reorganised the T*Sol family of programmes. In the product brochure, Valentin describes T*Sol basic 5.0 as a programme that “can do everything required for residential buildings”. It offers more features than its predecessor T*Sol Express, which was available in recent years, but has fewer options than the T*Sol pro and T*Sol expert versions. This is reflected in a lower price and a clearer layout. In contrast to the “bigger” programmes, T*Sol basic can be used for developing only one variant for each project. It also allows horizontal shadowing by importing Horizon and Sun-Eye files and can use climate data from the basic version of MeteoSyn. Consumption profiles and library components such as boilers, tanks and collectors can be loaded into the basic version but cannot be edited.

According to Valentin, the 20 pre-configured standard systems in T*Sol basic cover 80 % of all application cases for single-family and multi-family homes in Europe and the USA. The heating consumption and hot water consumption of open-air swimming pools can also be planned with this programme. The programme has also been improved to provide more concrete support for planners. For example, the programme contains design assistants for collectors, storage tanks and boilers that provide the planner with concrete suggestions for selecting a particular model. The Photo Plan function allows realistic representation of the roof of each respective customer – a great help in the acquisition process.

Another new Valentin product is the GeoT*Sol basic 1.1 version, which allows enhanced use of water and horizontal absorbers as heat sources.

Booth: B2.461

Dagan Machine Engineering develops machines and technologies for the solar market. At Intersolar they will present their portfolio. Among other things Dagan will present absorber production lines for automatic and manual manufacturing. New products Dagan will present are equipment for vertical meander production with a rotating main arm and slave bending trolley. This construction speeds up the bending capacity, because two bends are made at one time. Also, Dagan Machine Engineering will show a Orbital Cutoff head with centrifugal force actuation and a precise dry leak testing machine, based on direct read of leak volume.

Booth: B2.350

Eva Augsten, Jan Gesthuizen

Baymak Solar Energy System’s success lies in the strong commitment to;
* Professional, young and dynamic sales team
* The fastest Research and Development
* High technology and quality
* Full automation laser welding line
* The most competitive prices
* On time delivery