

## **A world innovation at the foot of the Wilder Kaiser mountain**

**Two powerful Austrian partners herald the new era in collector production**

**A directional laser beam and three-axis robot arm: these are not futuristic images from the latest science-fiction adventure from George Lucas. This unique high-tech machine for producing absorbers for solar power systems is found in the heart of the Tyrol region only. The solar power experts at TiSUN have been relying on the do-it-all "Pulsspeed Bender" for manufacturing solar collectors since October 2011. This melodic name stands for a patented production technology developed jointly by model companies TiSUN and DTEC in Austria. It enables the bending, welding and soldering of the absorber, the heart of every collector, in just minutes.**

Arnold Teufel, Technical Managing Director of TiSUN GmbH, describes the new investment saying: "The 'Pulsspeed Bender' is the Ferrari among machines currently in use for absorber production." The solar heating specialists in Tyrol worked together with the mechanical engineering experts at DTEC in Upper Austria for 12 months to plan and build the machine.

This all-rounder enables the fully automatic production of a complete absorber as used in solar collectors. "Up until now, a number of process steps and several different systems were required for manufacturing. Now, a single machine handles all these tasks," said Arnold Teufel of this Austrian innovation.

"We have been producing our collectors for years using the tried-and-tested meander system. Here, the piping is bent into serpentes (meanders), the absorber plates are cut to size and then the plates are welded to the pipes. Our new machine welds the meander pipes to the plate with a high-tech laser during bending. This results in an optimum connection between the materials," continued Teufel.

### **The "Pulsspeed Bender" – The highest standard of quality in a single machine**

**The unique absorber production machine cuts the pipe material to the desired lengths and processes it further straight away.** While the copper pipes are being bent, the "Pulsspeed Bender" welds them to the aluminium plate with a laser. In the next step, the piping is fused to the plates using Trumpf lenses. The headers are then automatically fed, welded to the meander pipes and soldered. An integrated quality inspection checks and monitors the entire product before it is installed in the collector.

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Thanks to its movable bending arm and laser head, the new TiSUN high-tech machine is extremely flexible in use and can create absorber plates for every collector type. The three-axis arm enables rotation up to 274°, and the laser head can be positioned at the optimum firing angle to the processing surface.

Robin Welling, Managing Director of TiSUN GmbH responsible for sales, was happy to report: "We're proud to once again show that Austria is the world leader in solar heating technology, this time with this robot arm innovation. As a market leader in innovative technologies, TiSUN sets high quality standards for their products. This is why we are always working to improve existing technologies. To our end customers, using the new absorber production system will translate into increased energy yields. The piping, which is bent in a special way and also welded, enables energy captured by the collector to be maximised. This energy is then transferred to the tank, where it can then be optimally utilised for backup heating and water heating free of charge." Welling calls the unique development of the new machine a capital investment with high investment volume and cost-cutting potential.

TiSUN is Europe's top specialist in the solar heating industry. In the past, the company has patented a number of products and solutions, including the all-rounder "Pro-Clean" tank for water heating and backup heating.

TiSUN has been developing, producing and selling complete systems for the utilisation of solar heating energy for over two decades. The solar systems provide 100% independent, infinitely available, free solar energy for backup heating, water heating, process heat and cooling. Known as Europe's solar heating specialist, TiSUN has an export quota of 83%. The company employs a workforce of 120 at the main location in Tyrol/Austria and 90 sales personnel in Europe. TiSUN products are available in 44 markets in the EU27 and candidate countries, Switzerland, the former CIS states, the USA, MENA and India. All serially produced solar collectors feature multiple certifications. In addition to the Solar Keymark, which is valid across Europe, and the Austria Solar Seal of Quality, quality certifications from five other countries confirm the high standard of the products. The ISO 9001:2000 Quality Management Test Certificate verifies that both product and service quality levels are especially high. Since 2010, the company has also been certified under the international environmental management standard ISO 14001.

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