Pushing boundaries!

BBW Lasertechnik GmbH, based in Prutting near Rosenheim, is synonymous with innovative laser processing. The company delivers cutting-edge precision work for highly specialised industries, operating across more than 10,000 square metres with approximately 50 laser systems. Having started out cutting stents, the company's services have expanded to include battery module production for e-mobility, complex manufacturing for the aerospace industry, semiconductor electronics and other sectors. Andreas Bürger, managing director at BBW, explains: "The parameter window of the welding processes is narrower for the housing production and cell contacting of batteries, due to the cells' sensitivity. Various beam sources and processes are required for different cell types". In order to meet the challenges of multi-laser processing and to keep offering customers bespoke solutions, BBW uses only the latest laser technology in-house. But that's not all – the company is currently collaborating with colleges and universities on research into topics including beam shaping.

BBW Lasertechnik GmbH

https://www.bbw-lasertechnik.de/

Founded in 1997, family-run BBW Lasertechnik GmbH is a leading specialist in innovative laser processing. Hans Bürger, company founder and now joint managing director at BBW, runs the company with his son Andreas. His wife Maria and daughter Kristina also work at BBW, with the latter now in charge of HR and marketing. BBW has an in-house development department and metallurgical research section to ensure that it can constantly provide new ideas for its customers and because of the seemingly insatiable curiosity of the Bürger family. The company supplies complex industries including aerospace, e-mobility, medical technology, pharmaceuticals and biotechnology. As a result of this steady growth, the Bavarian contract manufacturer has also increased its production area to over 10,000 square metres.

INDUSTRY	NUMBER OF EMPLOYEES	LOCATION
Laser processing for e-mobility, aerospace, semiconductor electronics, medical technology, mechanical engineering, etc.	200	Prutting (Bavaria)

TRUMPF PRODUCTS

- TruFiber 2000
- TruDisk 2 kW – 6 kW
- TruMicro 5050 Femto Edition
- TruLaser Cell 3000
- TruLaser Cell 7020 / 7040
- TruLaser Robot 5020 (TruLaser Weld 5000)

APPLICATIONS

- Laser welding
- Laser precision cutting
- Laser drilling
- Microprocessing

Challenges

The laser industry is changing. To stand out from the competition today, simply welding custom parts in large quantities is no longer sufficient. Instead, BBW wants to cater to the individual needs of its customers and develop processes that help to overcome the limits of laser technology, particularly in niche areas. Why? Because challenging orders require precise welding processes. However, even laser technology reaches its limit at some point. Andreas Bürger explains, "We operate in very complex industries, from battery and medical technology to electronics in the semiconductor sector and aerospace/aeronautics. That's why we require bespoke solutions to satisfy our customers."



"We want to offer our customers something new even before they ask us for it."

ANDREAS BÜRGER

MANAGING DIRECTOR OF BBW LASERTECHNIK

Solutions

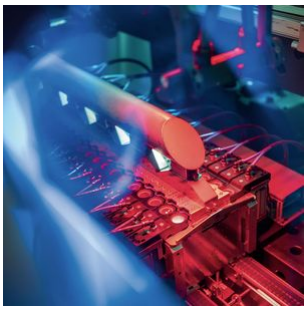
BBW has relied on TRUMPF lasers since 2005. Hans Bürger, joint managing director of BBW and father of Andreas Bürger, explains: "No matter what we envisioned, TRUMPF was always on hand to provide flexible, innovative solutions. At the same time, laser technology has continued to develop rapidly." Since then, BBW has consistently invested in the latest laser systems on the market and continuously expanded its portfolio. BBW purchases the beam sources from TRUMPF and designs the requisite systems in-house, tailoring them in its development department to meet specific requirements and customer projects.

Implementation

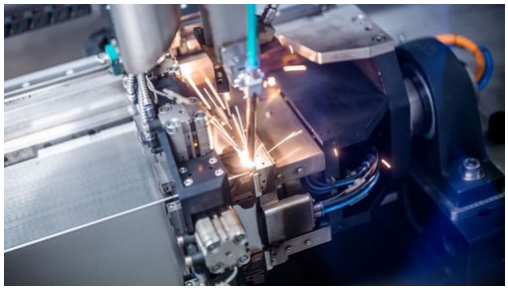
BBW has a metallurgical laboratory to ensure that the components are produced with maximum quality and precision. Workers also carry out a detailed feasibility study at the start of each project and analyse

initial tests in their in-house laboratory. BBW frequently handles multiple process steps in laser processing and post-processing, extending all the way to the production of complete assemblies. "And when current technology limits our goals, we initiate research to overcome those barriers," Bürger continues.

As part of an international research project with the Central Innovation Programme for SMEs (ZIM), they worked on improving the welding of aluminium-copper mixed joints. The result was that the joining process effectively minimised the mixing of metals in the seam, preventing the formation of undesirable intermetallic phases or alloys. During their in-house development project "Weldshape", they looked into hot cracking of the aluminium alloy AW6060, which is very susceptible to it. The solution they came up with was a process featuring dynamic beam shaping on a custom-built laser system equipped with a 16-kW singlemode laser and a high-performance scanner. This is because BBW is at the forefront of laser technology, making beam shaping increasingly relevant for their operations.







Forecast

Through its impressive development projects, BBW is making significant strides in the field of beam shaping. As a result, the laser processor's fifty laser systems include equipment specifically designed for beam shaping. The development team is currently exploring how the technology can be leveraged profitably for these diverse solutions. The goal is to use beam forming in problem solving for a variety of materials in the future, and to achieve more stable weld pools.

Find out more about our products



TruLaser Cell 3000

The TruLaser Cell 3000 is a compact, high-precision 5-axis laser machine for two- and three-dimensional welding and cutting. The 3D laser machine is also suitable for laser metal deposition, is easy to automate and is suitable for both prototype and series production.

Zum Produkt



TruLaser Cell 7040

The TruLaser Cell 7040 laser system is suitable for processing two- or three-dimensional components or tubes. It can switch flexibly between cutting, welding and laser metal deposition.

Zum Produkt

Date: 19/08/2024