

ZABAG SECURITY ENGINEERING

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GERMANY

MAXIMUM EFFICIENCY AND FLEXIBILITY IN TUBE PROCESSING



Optimized design, new possibilities in the production of their own and contracted products, and gaining significantly higher process efficiency, ZABAG took its tube processing to new levels in the fall of 2023 with a Lasertube LT8.20 from BLM GROUP configured with a loading and unloading length of 12.5 meters. This machine is unique in the German-speaking market.

"Even now we could no longer imagine our production without the LT8.20. With this new machine we have once again significantly increased our vertical integration. Apart from the screws and the electrical system, we now produce virtually all components of our systems in-house," says Robyn Klotz, head

of technology at ZABAG SECURITY ENGINEERING GmbH, based in Grünhainichen, a few weeks after the BLM GROUP's Lasertube was commissioned. As a general contractor, ZABAG develops and manufactures systems for perimeter protection and security of highly sensitive properties, as well as specialized solutions for the complex issue of high security. To date, the company has supplied systems to more than 30 countries.

"Whether it's government buildings, embassies, police stations, industrial and port facilities or other areas, the need for protection is increasing worldwide. And almost everywhere there are specific needs," says Stefanie Stehr of ZABAG Marketing,

describing the global market trend. In short, the company operates in a classic industry with special needs for flexibility in its production technology.

For the production of sliding gates, swing and folding gates, telescopic sliding gates, turnstile systems, and numerous other products, the company processes huge quantities of tubes and profiles of different diameters and sections. Given the many individual requirements of customers, most of the required components can only be produced in small batches. Often these are also one-off parts. The environment for using a powerful 3D Lasertube with a high degree of automation such as the LT8.20 could not be better.

A special machine

It is BLM GROUP's most versatile Lasertube and is used by numerous customers in the global market. However, the machine installed at ZABAG, configured with a loading and unloading length of 12.5 meters, is unrivaled, at least in German-speaking countries. It goes without saying: it gives the company additional options to meet even the most unusual customer demands, which competitors often refuse to accept. "Earlier this year we delivered a 96-meter-long sliding door to Singapore," Klotz explains, citing one example. Thanks to the LT8.20, it will be even easier to meet such requests in the future. "We initially considered the LT24 and were the first interested parties to see the prototype of the new LT12 at BLM GROUP's ADIGE plant in Levico Terme. In the end, however, the decision was made in favor of the LT8.20 with fiber laser. It covers about 90 percent of our tube processing needs," Klotz recalls. With its swiveling 3D Tube Cutter head, this machine processes special profiles and open profiles and round tubes, square tubes and triangular tubes, with

diameters from 12 mm to 240 mm and bar weights up to 40 kg/m with maximum precision and speed. ZABAG mainly uses it to cut steel, but also stainless steel and aluminum if necessary.

Superior product quality

In the past, the company had many components made with tubes and profiles produced by colleagues in the region utilizing BLM GROUP's Lasertube and, in some cases, also with their tube benders. This meant that they knew the high machining quality of these machines and were aware of the many possibilities that the precision of laser cutting would offer for improving the design of the product range. "We had already started optimizing our designs a year or two before we bought the LT8.20 and implementing ideas that would not have been possible with traditional technology. So, we were already on our way, to some extent," Klotz notes. As a result, ZABAG had already developed a portfolio of laser-compatible parts before installation, which the company was able to immediately produce with the commissioning of LT8.20. In the near future, the company

plans to put all its products through their paces again to find out what possibilities laser tube cutting technology can offer for further optimization. In addition, the company will try to turn components into standard parts as much as possible. This standardization would further increase the efficiency of their production process. It is necessary to have this technology in-house. In this way, the potential for product improvement can be fully explored and ideas can be quickly tested-this is ZABAG's mindset. This also includes the aesthetics of the company's proposed security solutions, which are often installed in entrance areas, in other words, in prominently viewed locations. Here, too, the new possibilities of connecting different components in tubes and profiles, which result from the precision of laser cutting, play a central role. Where complex welding was previously necessary, it is now possible to work with push-on joints of different types that in many cases make welding no longer necessary. By eliminating welding seams, the visual quality of the products benefits.



THE LASER'S CUT PRECISION
DEFINES THE INDUSTRY,
ENSURING SUPERIOR PRODUCTS



Several processes in one machine

Cutting, parting, marking, drilling and threading with the optional Drill&Tap function: at ZABAG, all these work steps are now performed in the LT8.20 and thus in one machine. Movement of parts between different machines and workstations has been eliminated. BLM GROUP's ArTube CAD/CAM

software automatically creates production programs for the Lasertube from CAD data from the design department. If necessary, they are adapted manually, which is possible in ArTube with just a few clicks and thus conveniently. This high level of efficiency in creating production programs is one of the main reasons why ZABAG can always profitably produ-

ce parts needed for production but also even the smallest series and even individual parts with the LT8.20. In the past things were different, orders for cutting tubes and profiles had to be collected before they could be delivered to colleagues. For this reason alone, ZABAG's manufacturing process is now smoother than ever. With its precision and flexible op-

tions, laser tube cutting technology not only brings significant efficiency gains in design and production, it also applies to the later stages of the process. "In our welding shop alone we achieve savings of 30 to 50 percent," Klotz says, citing figures. Added to this savings is the previously unknown repetition accuracy of the welding job. In general, ZABAG is now able to timely reproduce all the parts once produced with the LT8.20 by vendors in exactly the same if not better quality. If, for example, customers' doors are damaged by trucks or in any other way, repair work is minimized.

Leveraging diverse growth potentials

In addition to its own products, ZABAG works as a contract manufacturer for a wide range of companies. Especially for companies in the Erzgebirge region. "With the LT8.20 we can offer a very attractive additional process step and supply entire products or assemblies from a single source," explains Daniel Rekowski, head

of sales and marketing. Again, the company has gained a competitive advantage in the market because of the machine's 4 kW AMB fiber laser source: it effectively cuts even thicker-walled materials, such as IPE or open H profiles, with very high quality. "To be in the best possible position for contract manufacturing, we included a number of options in our LT8.20 from the beginning that we would not strictly need in the production of our own products," Klotz says, emphasizing the importance of this business segment for the company. Active Tools developed by BLM GROUP further help ZABAG stand out from the competition in terms of quality with its high-end products. Active Tools are a series of options that automatically optimize the laser tube cutting process, such as taking into account tube imperfections, offering flexible options for marking individual components, and reliably aligning weld seams so that they are in the defined positions. ZABAG's customer base also includes retailers, including some

fence manufacturers. Because the products required by these customers can be manufactured more efficiently than ever before with the LT8.20, the pipe laser also strengthens the company's competitiveness. As a result, with the LT8.20, ZABAG has opened up further growth potential in three business areas: project business, the production of standardized products, and in contract manufacturing. "With the investment in the LT8.20, we see continuous improvement in the production process of our products. By this we mean not only the physical work of the machine, i.e., laser cutting and, in some cases, machining, but we consciously aim for effective and time-saving job preparation and part processing. But also to the effective and fast further processing in the welding area, to the simplification or elimination of various work steps. These are all reasons why the investment in the LT8.20 is of great strategic importance for ZABAG," says Managing Partner Michael Simon.

SAVING IN WELDING SHOP:
30% TO 50%

