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JOB SHOP

MARKSTAHL

TUBE PROCESSING KNOW-HOW AT GLOBAL LEVEL

Toward the future of tube machining processes with All-In-One

MarkSTAHL, a German company based in Jahndorf established at the end of 2010 by Roland Markert, is unmatched in the tube global market.

In 2016, this innovative company built an industrial plant able to produce all the different phases of tube and sheet metal processing. The strong points are two Lasertube systems, LT5 and LT8.10, and a tube bender E-TURN52, integrated in a synchronized production line that represents the concept of All-In-One. Mr. Markert is in contact with selected agencies from around the world to find materials that can satisfy his customers' requests at best. The cooperation between MarkSTAHL and the steel plants brought new types of metal to realization, not yet present on the market. The pieces produced by MarkSTAHL are sold to customers globally and often are used for the production of innovative applications.

SERVICE SUPPLIERS FOR SPECIAL CASES

“Tubes belong to their own world. That has always been fascinating to me for its aspects, peculiarities and possibilities” states Roland, without hiding his enthusiasm. His in-depth knowledge of tube processing was gained from working in the tube department of a firm processing special steel bars. This experience led him to establish his own business producing tubular products for the global industry. The appeal for specialty materials rose immediately so that he could acquire regular customers.

Markert shows us a construction, the purpose of which is not clear at first sight. “This is a drilling head that pumps fluids from many thousand meters deep”, explains Markert, and we understand that, with his 20 employees, he manages a company that meets the most specific needs of his customers.

The company supplies to many different facets of businesses all over the world ranging from furniture to production of vehicles, naval, healthcare, aerospace or mining industry: markSTAHL is therefore a versatile company able to meet the most diverse needs.

“Our strong point is that we know how to identify the specific needs and from there to plan every step: from purchase of the right materials, to part production, including all process steps”, affirms Markert, to underline the difference between his company and competitors.

The focus of the company is the quality of the material used: as a matter of fact, the company often discusses with customers the possibility to create new materials depending on the specific needs. It's not uncommon for many years to pass from project conception to its final realization.



ALL-IN-ONE: MACHINE INTEGRATION

“Technological progress in the field of tube processing over the last few years has been considerable. Greater improvement possibilities came from All-In-One with the integration of Lasertube fiber machines and BLM GROUP tube bending machines”

affirms Markert. Furthermore, Mr. Markert wanted the tube bending machines and the Lasertube to be provided by the same company and he found the solution with BLM GROUP.

“We chose the LT8.10 for its capacity to cut in 3D and its flexibility to process tube dimensions up to 240 mm diameter and 12 mm thickness. The LT5 was selected for its production speed for the smallest parts. The combination of the two Lasertube systems was perfect for us.”

“The E-TURN52, is used for bending parts with an external diameter from 6 to 52 mm. The possibility to perform right-hand/left-hand bending in process gives markSTAHL the freedom to bend and offers huge machining flexibility. With the tube loader for oval, round and square tubes up to 6 m long, the machine produces large series even without the operator being present, but ensuring perfect radii, both fixed and variable.”

Thanks to the integration of the three machines with All-In-One technology, production of reject parts has considerably decreased when machining of parts with holes. Therefore, machine operators laser cut parts with the LT8.10 or with the LT5. Parts obtained are then positioned on a loader and machined by the tube bending machine that recognizes position of holes on tube and transfers the information to B_Tools.

At this point, the software adapts the bending program depending on cuts previously performed, also considering the elastic return factor and stretching that tube may undergo during bending. “When processing parts that are not too complex, i.e. most part of our production, holes are already in the right position, without the need of any program correction”, explains Markert.

“This means short preparation times and easy work for machine operator. Both factors positively affect the economic performance of production.”



WIDE RANGE

“With the LT8.10 we process above all profiles and tubes of great thickness - but not only” affirms Markert smiling while he shows us the machine. Once we reached the Lasertube he asks the operator to show us a part just obtained from the production process in progress. We were surprised to see that the part dimensions were only 3x4 cm. 3D section can be observed on the oblique angle of the produced part. Markert affirms: “This part is used as stop for a piece of furniture adjustable in height. This is what I mean when I say that the machine is flexible.” The machine is therefore able to produce very small parts and to process tubes with large diameters.

For high volume production, operators position tubes and profiles up to 8 m long on loaders. In small batch production, we use a step loader. In automatic mode, we can load parts of 6.5 m with 240 kg weight. The machine has three load stations that automatically divide the finished parts.

Flexibility of materials: steel, stainless steel, brass or copper, the laser cuts any material rapidly and always ensures the highest quality.

“We will continue producing cuts in 2D for our customers” affirms Markert. In this case the LT5 is the ideal machine thanks to its high reliability. Parts up to 3.5 m long can be loaded on this machine and it is able to ensure high productivity also on batches consisting of more than 30,000 parts.

Integration of the three-dimensional Artube CAD/CAM software of the Lasertube and the VGP3D of the tube bending machine E-TURN52, offers to markSTAHL all processing possibilities for tubes and profiles necessary to the company.

“ When production is very broad, as is our case, it is necessary to develop a chain production process that links every process, from part design to its production, until it is unloaded in the specific carriages. We will have to face this and other challenges in future. ”

states Markert, hinting at the topic 'Industry 4.0'. “We have already obtained great results thanks to the integration of the Lasertube and the tube bending machine.” It is then obvious that these new technologies, as All-In-One, can only surprise us with their development potential. For this reason, BLM GROUP is the right partner for markSTAHL, the same applies for EHP.

TUBE MARKET GROWTH

Tube market is continuously growing, and this is a great advantage for markSTAHL. “Our customers are currently replacing tubes to solid material in processing. For example, it is not that long ago that it became possible to produce tubes with a tensile strength of 1,400 N/mm², according to standards required. These are the sectors where, together with carpentry, we intend to develop new production system and use new technologies.” It is difficult to imagine how expensive the development of new ideas will be and in how many fields tubes can be used.

With its machines, markSTAHL is gradually conquering more and more customers. For example, recently the company has been involved in the production of tubes for the nuclear industry.

