

# BEUTING METALL- TECHNIK HARD TRIAL

„‘Stress test’ passed with  
three new products



## Challenging project with high requirements

Die Beuting Metalltechnik GmbH & Co. KG (Vreden, Germany) is an owner-managed family company with over 24 years of experience in sheet metal processing and mechanical engineering. The wide delivery spectrum ranges from simple flame-cut parts to complex systems. As a partner of Messer Cutting Systems, Beuting manufactures extraction tables, water cutting tables, shuttle table systems and filter systems. Moreover, Beuting Metalltechnik is also a competent and reliable partner for laser and plasma cuts, folded profiles, rolled parts and assemblies.

### The challenge of skills shortage

"Our customers want to process our parts on their robot welding systems. We must prepare for this by automating and digitalising our manufacturing processes," explains Mechthild Beuting, Managing Director of the company. "We have made the experience that machine operators are harder to recruit for plasma cutting systems than for laser cutting systems. In addition. We therefore looked for a complete solution with a laser cutting system."

### Intuitive Bedienung der Maschine

The new cutting machine should be able to cut sheet formats of up to 3 x 8 m with a sheet thickness of up to 20 mm as well as burr-free cuts. Chamfers should be possible up to 15 mm, with 90 % chamfered parts with a maximum angle of  $\pm 50^\circ$  and a tolerance of less than 0.5 mm with V, Y, X and K seams. It was also important for the new machine to be able to process sheets with varying surface quality such as blasted, lightly rusted, primed, oiled, etc.

"The main focus for us was in particular the intuitive operation of the machine. After a short training period, our operators should be able to handle the machine safely and on their own and be able to operate it man poor in a second shift. In addition, it had to be possible to integrate our own shuttle table system into the machine," Stefan Tenhumberg, project manager at Beuting, explains the technical requirements. "We also need a lot of flexibility to be able to convert the machine to higher laser powers as customer requirements increase and more powerful laser sources become available."

## SOLUTION

### Sensible and functional overall concept from Messer

After extensive market analysis, the company opted for the ELEMENT 400 L laser cutting machine with a new Bevel-U bevel head and 8 kW IPG laser source as well as the automatic Laser Nozzle Control (LNC) and the Global Connect machine control system. The digitization of the production takes place with the CAD/CAM nesting software OmniWin and the digitization suite OmniFab (modules ERP-Connect, Job Management, PDC and Machine Insight).

"The ELEMENT L for Beuting was our prototype for new laser cutting machines that went beyond the 6-kW limit. The highest priority was to secure the combination of new machine, new Global Connect control and LNC as a prerequisite for automation. The alliance with our partner Beuting helped us to bring the project to market maturity together under production conditions," says Ingo Staudinger, Product Manager Material Handling und Laser, Messer Cutting Systems.



The ELEMENT 400 L laser machine scores with remarkably high dynamics, the latest laser technology, and the ability to process XXL sheets economically.

## IMPLEMENTATION

### Solving difficult tasks in partnership



Intuitive operation, save paper and always have a digital overview of all production data with the new Global Connect CNC control with 18.5-inch touchscreen.

First, the old plasma cutting machine had to be dismantled and the foundation for the new machine created. This was followed by the assembly of the special track by Messer Cutting Systems and the construction of the shuttle table system by Beuting. Regular productive operation of the ELEMENT 400 L with one shift has been running since December 2021.

Es hat beide Seiten deutlich weitergebracht und unsere Marktpositionen verbessert.“

Mechthild Beuting sums it up: "Everyone involved, including the management of Messer Cutting Systems, has repeatedly contributed to solving the pending, sometimes very difficult tasks. The open communication and the fact that we have known and valued each other for many years helped us a lot here. It has brought both sides much further and improved our market positions."

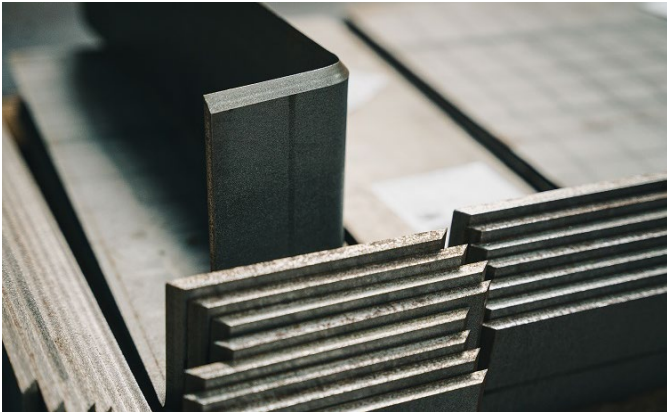
Ingo Staudinger agrees: "By combining the Messer machines with the environmental technology from Beuting, we have developed a competitive advantage together. Both sides benefit from the close cooperation. We pay attention to the interests of each other in dialogue with our customers. We were always able to find a solution, even for difficult tasks."

## RESULT

### Expectations significantly exceeded

#### Only parts from this machine

"The precision with which the machine cuts the components has clearly exceeded our expectations. One of our customers can now weld all the parts automatically and only wants components from this machine. We now automatically cut a wide variety of structural steels and fine-grain structural steels, even with different surface qualities, without manual intervention. The cutting times compared to the plasma cutting process have been significantly reduced with the same assemblies. Our operators are happy about better working conditions in terms of dirt and noise and have a lot of fun working with the new machine and its new control system."



"Today we can produce finer contours with better quality, regardless of the surface quality," says Stefan Tenhumberg, Technical Manager Beuting Metalltechnik

## OUTLOOK

### More transparency and further improved cutting processes

The Beuting family is already planning the next steps. Automation and digitization are central themes. The ELEMENT L is to be further optimized and the material logistics automated. The plan is to connect the machines to the ERP system so that manual recording of times and quantities becomes superfluous.

#### Competitive edge thanks to the new machine

Mechthild Beuting also sees the whole thing very positively from the management's point of view. The competitive edge that the new machine has brought is already clear. The product quality has been greatly improved; the attractiveness of the operator's workplace has been significantly increased. "We are already using the system very successfully, even in man poor shifts!"

#### Operations are eliminated and reduce time and costs

Ulrike Beuting complements her mother regarding the advantages of digitization: "Many work steps in order processing, manual material bookings as well as rework costs are eliminated and reduce time and costs. The higher cost transparency means that we can further optimize processes."

#### Significantly reduced non-productive time, increased productivity

"Through the joint development work, we were able to significantly reduce non-productive times and increase the productivity of the machine. We were able to influence many details. Another advantage is the intuitive Global Connect, which only takes a short time to get used to," Stefan Tenhumberg explains.

Production planning and order processing is further digitized with OmniFab. The evaluation of the machine data should bring more transparency and further improved cutting processes.