EXPERIENCE

OFFICE FURNITURE

ERGONOMICS, TECHNOLOGY AND AESTHETICS, THE SEARCH FOR PERFECTION

PROFIM

Profim is a leading European company in the manufacturing of office chairs. Its central headquarters is in Turek, found near Poznań in Poland. This is a plant with an area of 50,000 square meters, employing 2,000 employees and manufacturing approx. 100,000 chairs per month. Founded in 1991 with private capital only, Profim had revenue exceeding €98M, exporting 70% of its production to 30 countries around the world, including Europe, the United States and Australia, thanks to its 1,100 retailers.

Ergonomics and design are the main aspects that should be emphasized if Profim is to become the largest Polish manufacturer in the sector.

We are talking about a high level manufacturing facility, with important numbers and complicated problems related to production management. High numbers do not necessarily mean repeat production. With over 50 collections, each consisting of fifteen different office chair models, the number of different components to be processed is extremely high. Thus, there are high numbers, but there is also extreme care for product quality and the need for flexibility, as well as strict cost control.
For 25 years, Profim has processed metal pipes to make its products. Because of this, they have become experts in the field of cutting, bending, forming and welding. We spoke with Ian Kurcobia, Manager of the Design and Technology Department, and with Process Engineer, Włodzimierz Augustyniak. We asked them about the main features of the machines they use for production:

> *“Machines must have good quality and price. Quality is more important from the perspective that machines must, above all, perform the work that they were purchased for with continuity and precision. Only then is it assessed which product has the lower price.”*

An example of this philosophy is the application of Lasertube systems, which certainly cannot be called cheap, but which helped Profim solve certain problems, allowing for the achievement of comprehensive savings. “Before the time of the laser, we had to perform drilling, milling and cutting on three different machines,” explains Augustyniak. “Today, thanks to the laser, we perform everything in one sequence without expensive movement from one machine to the next”. They noticed the first Lasertube system at a trade fair in Düsseldorf. The machine made a great impression, particularly with its precision and speed of work.

> *“We saw the capability of performing many different processes using a single machine with high output, precision and repeatability.”*

COMFORT IS A COMBINATION OF ERGONOMICS, TECHNOLOGY AND AESTHETICS.

Chairs are a design problem when the quality of the product’s aesthetics play a decisive role. In order to achieve such quality, it is necessary to ensure precision of the processing.

> *“Precision is indispensable for achieving constant high quality.”*

explains Kurcoba.

> *“The accuracy and repeatability afforded by the LT FIBER Lasertube system has allowed us to apply robotized welding, making the entire process more reliable and stable.”*

In the past, we made welds manually, and today the process is automated with 16 robotized automatic welding stations. We manufacture components in small or large lots, maintaining the same quality in every piece. With the production diversity of the company in mind, the aspect of flexibility certainly cannot be neglected.”

QUALITY IS INDISPENSABLE, BUT FOR THE RIGHT PRICE.

The first contract with BLM GROUP and purchase of their TS72 cutter for straight cutting of pipes, resulted in partnering with the BLM GROUP as an exceptional supplier, capable of meeting the requirements of bending and laser cutting. “We had a need to perform die shearing during the bending sequence, and our previous supplier only had one machine for hydraulic shearing. Electro-machining was more expensive than the solution from BLM, so we changed our supplier,” Kurcoba adds. “Quality is fundamental, but it also needs to be a reasonable price, otherwise it is unaffordable”.
The first Lasertube system delivered in 2010, along with an E-TURN pipe bender, was the LT823D system with a CO2 laser and a rotary head capable of performing cuts relative to the pipe’s surface. “3D cutting is used in 10% of our applications, however it is also very useful in cases of larger thickness, when sealing riveted joints, and allowing for proper joining of edges for the next welding”, states Augustyniak. “We never conducted an actual, detailed comparison of processing costs before and after application of the laser, but its advantages are evident. The complete production cycle is many times faster in many cases,” explains Augustyniak. In reality, Lasertube systems played an important role in Profim’s activity at the time.

Next, Profim decided to transition to fiber laser systems, mainly due to their maintenance costs which are decidedly lower than those of the CO2 laser, whose maintenance is more expensive and requires standstill of the machine lasting from one to two days.

“The fiber laser is faster and more economical. We chose BLM GROUP’s laser because it is capable of effective and very fast cutting of both small pipes and pipes with larger cross sections, which is a big advantage in our case”. In reality, flexibility is one of the key features of Lasertube systems, which covers a wide range of processes, adapting to different properties of individual types of pipe.
Environmental protection also had a direct impact on the selection of a fiber laser system, because the machine’s application allows for low electricity consumption.

Recently, a third Lasertube, the LT FIBER model, and a new pipe bender, the E-TURN, were delivered, which led Kurcoba to say several words of acknowledgment for the new bending systems from BLM GROUP. “E-TURN proved to be a very good, fast and problem-free machine, and we have the significant advantage of having the tools from the first machine.”

The new E-TURN machine is equipped with the B-Right system, which makes it possible to perform correct bends starting from the first piece, thanks to the capability of remembering the plastic properties of materials and calculation of individual bends in advance.

RAPID PROTOTYPING, BIG ADVANTAGE

In the office furniture sector, creating new product lines is a complicated process. Small details can be very significant in defining the success of a given product, from the perspective of both design and ergonomics. At Profim, the creative stage is entrusted to high-level designers from all over the world. Next, the designing and prototyping stages are conducted, which can last from several months to several years. “The production cycles of individual elements must be accounted for, and a final result approved by the designer and owner must be achieved. And of course, the owner must assess a design from the economic perspective in its entirety as well,” said Korcoba.
It is within reason that an entire department of the company is dedicated to prototyping work, and its work is facilitated by the Lasertube systems. “In the past, work covered passive prototyping based on the manufacturing of complicated format frames and dies, which were often destroyed after slight changes were made to them. Today, lasers make it possible to create prototypes in a very short time, at much lower costs than in the past,” states Kurcoba, who shows us several desks with a lifting mechanism enabling the adjustment of the desktop height, which is supported on a telescope frame, achieved by utilizing a particularly creative laser process.

Profim’s primary objective is to identify and completely satisfy the customer’s needs in the fastest and most efficient way possible. How can one disagree?