



MOTORBIKE

LASER FOR SPEED

AKRAPOVIČ

For motorcycle aficionados, particularly at the motor sports level, the name Akrapovič needs no introduction. For non-aficionados, it is a Slovenian company leading in the manufacture of exhaust systems for motorcycles and for supplying the largest brands that participate in motorcycle races around the world. To perform certain laser cutting operations on its own products, the Akrapovič company has recently begun using the LT-FREE system from BLM GROUP, and for this reason, we visited them at their headquarters in Ivačna Gorica, several kilometers from Ljubljana.

This year, the company is completing its 25th year of activity, as we learned from the current CEO, Mr. Uroš Rosa, who told us about its beginnings. “25-30 years ago, motorcycle exhaust systems were rather primitive and gave no advantage in terms of performance or riding, which cannot be said of today’s products. At that time, Igor Akrapovič, the company’s founder, was a motorcycle rider who participated in national and international races. As he tuned his motorcycle, he became interested in the exhaust system, for which he invented and implemented several solutions to improve the machine’s performance. These solutions were good enough that Igor began selling exhaust systems in former Yugoslavia”. And so the company was formed. Today it is a global leader in the sector, employing 900 people in two plants, several kilometers distant from one another. The plant that we visited, the company’s former headquarters, contains a research and development department, laboratories, a foundry, an administrative department, a race department and a small prototype production unit. Carbon fiber components and parts, exhaust systems, and the warehouse are found at the second plant, with an area of approx. 25,000 sq. meters.

SUPPLYING WELL-KNOWN BRANDS

The real turning point for the company was in 1997, when Kawasaki implemented an Akrapovič exhaust system on a “superbike” that took part in Germany’s national championship. Since that time, the brand has taken a high position in the market, and other companies started to install Akrapovič exhaust systems, rapidly growing the company.

Today, looking through the list of Akrapovič’s clients is like reading the qualifiers at the world motorcycle championships. They are practically all of the most prestigious brands, which race in different motorcycle categories around the world, from Superbike, through MotoGP, to cross, such as Ducati, Yamaha, Kawasaki, Suzuki, Aprilia, and KTM. “In different cases, we deliver various systems and elements, such as basic exhaust systems and aftermarket accessories for on-road motorcycles. Starting in 2008, we also began to supply the car sector with the Porsche GT2 being the first, followed by some of the most prestigious brands and models, such as Audi, Bentley and Alfa Romeo. Today, 80% of production consists of motorcycle products and 20% consists of exhaust systems for cars. 99.5% of this is for export”.

900

*different exhaust systems
in production*



110% QUALITY AND FLEXIBILITY

With clients at this level, it is absolutely necessary to deliver perfect products with maximum quality. However, achieving this result is not at all easy. “Supplying a race team means having a small number of parts, performing many modifications, and the final product must always be 110% perfect from every perspective”, Rosa explains. “One can only imagine what the consequences of even the slightest error could be in this case”. He continues, “Of course, serially manufactured elements or elements intended for aftermarket must also be absolutely perfect. Only production quantities and times change”.

It is obvious that the date of the motorcycle Grand Prix cannot be changed, so there is a need for a department completely independent from the rest of production. “Elements for race teams are made here, and they are all assigned the highest priority”, Rosa states. “Management is not easy, and the quantity and variety of elements does not help. We manufacture over 900 exhaust systems, and we are flexible enough to manage the situation without problems”, Rosa concludes. It is clear that flexibility is the most important requirement after quality, and this is the aspect that leads us to the subject of the LT-FREE system. “I got really hyped by the concept of the LT-FREE machine, it’s something amazing”, Rosa explains and continues. “I also met other manufacturers of 5-axial cutting systems, but only this machine is capable of guaranteeing maximum flexibility, above all, thanks to the mechanical arm in the work area, which grips and turns the element during processing. Flexibility was most important to us”.

RESEARCH AND DEVELOPMENT AND PROTECTION OF KNOW-HOW

You don’t become a leader without innovation, and this is why the Research & Development department at Akrapovič is so important. It was not created at the company’s original headquarters, next to the race department, where the metallurgical laboratory is also located, without reason. “The data on the alloys we use cannot be found in any textbook. They are the fruits of the labor of our research team and are the subject of continuous research and development, making up an important part of our know-how”.

Other titanium foundries produce 99% for military and medical applications. Akrapovič’s is focused on their own production and some other non-military fields.. Since the needs of Akrapovič are different from those of most companies, it has also become

completely independent at the production level, both in order to achieve maximum flexibility in prototyping and development of new solutions, and to protect its know-how.

“By controlling the entire process, from the foundry to welding, we perform all manufacturing of such titanium elements as flanges, collectors and complicated parts. We also have at our disposal a line for manufacturing titanium pipes of a quality that we could not find in the market. From the perspective of our balance sheet, this is an expensive choice, however it provides us with greater flexibility and makes it possible to protect our know-how. Laser technology is an important element of the entire process, making it possible to make the prototyping stage more flexible and keep manufacturing of critical elements within the company”. Rosa continues, “For a long time we were thinking about applying a 3D laser system. We began by ordering 3D laser cutting externally, and we achieved a satisfactory level of quality. However our demand grew, and our dependence on the delivery times of the external supplier were no longer acceptable, so we decided to take the next step last year. We looked at the competition’s machines and noticed that your machine has a one-of-a-kind concept. Other 3D machines were made for sheet processing, but this one was obviously made with pipe processing in mind. The capability of performing specific operations without the need to move the element is a very big advantage. We noticed this at our former supplier, who performed part of the processing on one machine only to move the processed element to other machines to finish the process”.

The LT-FREE system was created in order to process three-dimensional elements in one pass, without the need to perform tedious relocations, and this is an advantage that Akrapovič appreciates very much. “We have many different parts with small production sizes, so the processing speed of the LT-FREE system is very good to have. Manipulation is not time-consuming thanks to the robotic arm holding the element and the two moving bases that allow the machine to process successive elements continuously. If everything is prepared properly, production is carried out very quickly, with no standstills”, Rosa adds.

Product quality, research and development, flexibility, organization and passion are the traits that have allowed Akrapovič to develop and achieve success in a sector that is definitely not among the easy ones, and where there is much competition. At the BLM GROUP, we are strong supporters of all of these principles, which constitutes an excellent point of reference for all future success.



110%
quality