

Listening to customers' needs for 50 years



Founded in 1973, Bumotec SA specialises in the development and manufacture of machine-tools dedicated to the complete machining of high precision micromechanical components. Since its creation, Bumotec has focused on the watchmaking market and the luxury goods industry, offering machine-tools adapted to the increasingly stringent requirements of these markets. Now celebrating 50 years of expertise, the Fribourg-based company was acquired in 2012 by the Starrag Group.



Starrag in Vuadens, production site of the Bumotec and SIP product ranges.



View of the Starrag production hall in Vuadens where the 191 series is produced.

Samuel Boschung, Head of Production at Starrag Vuadens SA.



“The key to our success has always been our ability to fully understand our customers’ needs.”

Under the name Starrag Vuadens, and based in the Swiss municipality of the same name since 2016, the entity brings together two flagships of the Swiss machine-tool industry. At opposite ends of the spectrum, Bumotec, the micro-machining specialist, rubs shoulders with SIP, an expert in ultra-high precision mechanics. However, these two historical manufacturers share the same philosophy, the quest for the last few microns thanks to manually scraped surfaces, SIP’s field of expertise for 160 years.

With the introduction of the Bumotec 191^{neo}, the latest evolution of the range’s flagship ‘s191’ model, Bumotec is setting a new milestone in terms of versatility. The path taken by Bumotec over 50 years, from a dozen employees when the company was founded to the two hundred that make up the company today, has its origins in the excellent relations that its founder had with the players in the watchmaking market. This proximity to the watchmaking world played a pivotal role in forging the DNA of the product range, ensuring it listened to its customers’ needs in order to offer specific machines perfectly adapted to the production of watch components.

Nevertheless, it was a bold gamble to start manufacturing highly specialised machines.

Jean-Daniel Isoz, Managing Director of the Ultra Precision Machining Centers business unit at Starrag Vuadens, explains how this balancing act was brilliantly executed by Bumotec.

“In the early decades of Bumotec, a large number of different machines were developed. They were adapted to certain profiles of watch parts, such as cases, bracelets and clasps. Manufacturing specialised machines are more risky



Bumotec S-92XL, 3- to 5-axis CNC in single- or multi-spindle configuration, produced in the early 1990s.

without the security of mass series production. The economic risk is higher, but our predecessors had done very well. To mitigate this risk, there have always been a few bestsellers in our portfolio. The key to our success has always been our ability to fully understand our customers’ needs, which has led us to develop specific solutions. There is no better machine than the one adapted to the real needs of our customers, and we were naturally inclined towards the watch industry due to our geographical location and the network build by our founder. Today we strive to produce machines that are increasingly versatile whenever possible. To achieve this, we have focused on a portfolio of parts rather than a single type of part when developing our new machines. This allows us to offer more economical machines and facilitates after-sales service. This approach has also opened up new markets for us, such as medtech, aeronautics, and all micromechanics besides the luxury goods, because the machining challenges for these players are relatively

similar to those of the luxury goods industry, which remains the core of our business. Thanks to Starrag, we have a strongly developed distribution network overseas. This has been essential to adapt to all customer needs and to overcome the language barrier in sales and after-sales services. This is another key to Bumotec's success as it is recognised within the industry and the rising reputation proves this fact. We spend a lot of time talking with our customers so ensure we can offer them a machine perfectly adapted to their needs. It is a win-win partnership, and that is the only way to move forward. The next challenges we are facing concern the digitalisation of the industrial environment, but our main priority will be reducing the environmental impact of our machines. We are working to reduce our carbon footprint during production, in particular thanks

to our factory's equipment, heat pump, deep geothermal probes and the 8,300 m² of solar panels on the building's roof. Issues relating to the supply chain and the many parties involved is another area we are currently working on. Our ongoing initiatives include the elimination of paper use by introducing digital brochures and going more and more remotely (training, technical project sessions, troubleshooting, etc.)."

LEAN transformation and how to make your company sustainable

Bumotec has been experiencing strong growth for several years now while the machines constantly increase their innovation. One of the major challenges was the implementation of a LEAN production line. This is nothing new and applied by many companies, but it becomes complex



Bumotec 191^{neo}: Precision at every stage of its production.

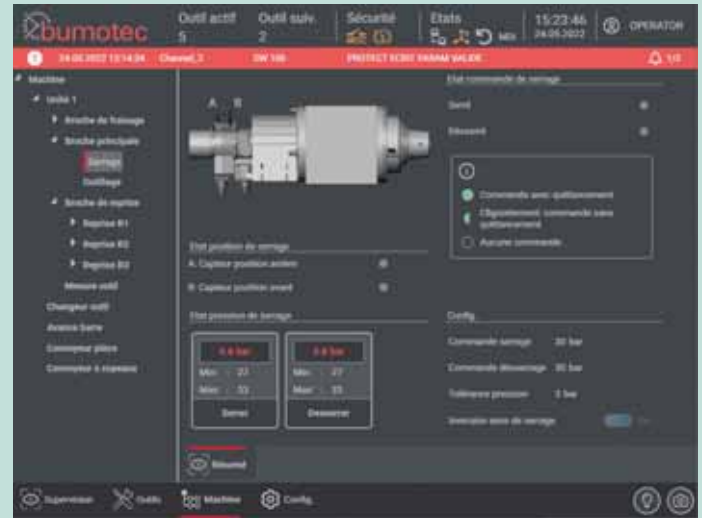
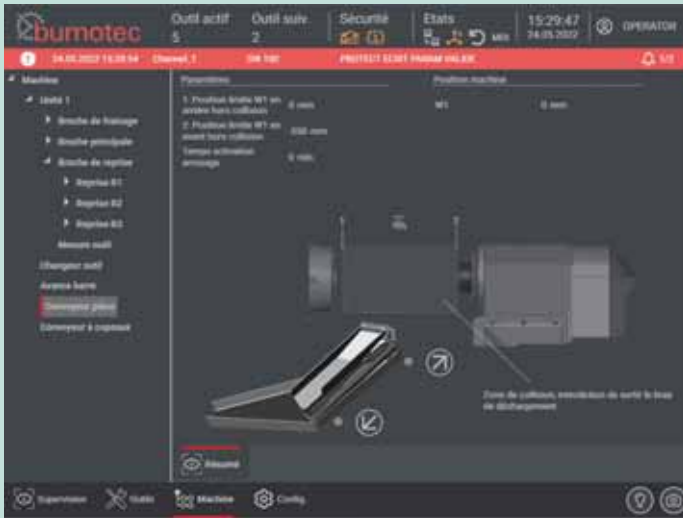


The new Bumotec 191^{neo} machining centre equipped with the latest generation HMI.

quite quickly when manufacturing highly customised machines. Despite these difficulties, and with the help of an external consultant, Bumotec successfully made the transition to LEAN production.

Samuel Boschung, Head of Production at Starrag Vuadens, looks back on this development, which began in 2014 and was fully implemented at the new production site in Vuadens.

"Our objective was to create a layout compatible with the new flows we wanted to implement at our new plant in Vuadens. Before, we used to work to order and each machine became a specific job. There was no standardisation. We couldn't find a common ground to standardise our assembly line because of the specifications of each machine. To solve this problem, we analysed the different tasks, which allowed us to "split up" the machines by station:



Easy to use, the new human/machine interface simplifies the configuration of data parameters in production, and also facilitates the training of operators.

machine base, peripherals and customer-specific features. The results of this study allowed us to identify common threads in order to implement strategies that could save us time. But we also needed to keep enough flexibility for our customers and their customisations during the built process. To structure our new factory, we divided our floor in several marked areas and we had already defined the functioning of the store. Afterwards, the implementation of the production line followed naturally by setting up specific workstations with immediate great success. This is a new way of working that has saved us a lot of lead time. This success encouraged us to deploy this philosophy also on other machines than the 191. We then focused on phases 2 and 3 of our LEAN transition. Reducing waste, decreasing non-value-added time, setting up employees on the stations, these were all essential steps to gain time and increase efficiency. We have also introduced a procedure to create instructions

for each machine. Things have also changed at management level. We have set up an SIM (Short Interval Management) initiative. Each department has a contact person who meets with the employees every morning at a fixed time to review the situation in order to provide information as quickly as possible. We are extremely satisfied with the results: for the s191 we have saved between 15–20% on lead time, and up to 35% for the 191^{neo}! The substantial common ground of the 191^{neo} allows us to manufacture this machine without customer orders, stock it and then customise it for future buyers within 6 to 8 weeks. It is a real change to the way we produce. It is quite a radical shift and requires a real strategy. In 2016, we employed about 30 mechanics and 15 electricians, which has now increased to 50 mechanics and 27 automation specialists. We have almost doubled our workforce!"

For half a century, Bumotec has been able to stand out from its competitors

“For the s191 we have saved between 15–20% on lead time, and up to 35% for the 191^{neo}!”

Samuel Boschung,
Head of Production
at Starrag Vuadens

without being confined to a niche market. Bumotec’s ability to listen carefully to its customers has enabled it to always offer the machine best suited to a specific type of need. Throughout its history, the company has seized the opportunities to develop innovative, high-performance machines. From the beginning to today, Bumotec machines have spread to many markets, starting, of course, with the luxury industry, but now including many others, all won over by the added value they bring. ▀