

Case Study: How One Food Processor Blended Food Safety With Lower Maintenance Costs



Unibloc QuickStrip FoodFirst 600 Series pumps minimized contamination risk, simplified maintenance and reduced sanitation time.

By Mark Boyd, Unibloc Pump

A major meat and poultry processor faced a challenge many successful companies encounter: its business was growing faster than its processing capacity.

Rising consumer demand meant the plant needed to increase output — but, of course, not at the expense of food safety and food quality. In an industry where contaminated products can trigger costly recalls and irreparable damage to brand reputation, producing unsafe and poor-quality products is a non-starter.

Process improvement for many of these facilities can be tied to improving pump performance — in this case, the lobe pumps used throughout the plant. The company needed a solution that would maximize processing line uptime by reducing both pump maintenance and cleaning times, two goals that were seemingly in conflict.

In addition, increased capacity could not result in damaged products. Poultry products such as chicken breasts and chicken pieces are shear-sensitive and have difficult viscosity, making pumping challenging.

Challenges Throughout the Process Line

The processor faced the following challenges to achieve efficient operation:

Maintaining output without product damage

Pumps had to maintain appropriate flow rates for the required product output. At the necessary pumping rates, the pumps had to minimize shear stress to prevent the processed product from being damaged.

Labor market difficulties

The plant had struggled to hire qualified technicians for night-shift maintenance and sanitation positions. This staffing shortage meant the existing team needed pumps with dramatically simplified maintenance and cleaning procedures.

Complex equipment that required extensive training was no longer viable. Pumps with a high number of parts took too long for crews to disassemble, clean and reassemble. With multiple lobe pumps located throughout the facility, managers knew that faster pump cleaning times were essential.

Food safety risks

The processor's existing pumps presented multiple contamination risks:

- Because of their complexity, existing pumps created opportunities for technician error that could damage parts, creating crevices and foreign objects that could compromise food safety.
- The manufacture of the plant's existing pumps had weld transitions that potentially could harbor bacteria even after thorough cleaning.

The company needed pumps that addressed all three challenges simultaneously: maximizing operating time without product damage, simpler maintenance, and simpler, faster sanitation procedures that still safeguard food safety.

The Unibloc Hygienic Technologies Solution

With production schedules tightening and a challenging labor market making it hard to find skilled technicians, the company's engineers decided to try advanced technology pumps from Unibloc Hygienic Technologies. The processor switched to the more innovative and simpler designs found in [Unibloc FoodFirst QuickStrip Series 600 pumps](#).

Plant managers replaced their existing pumps with the Unibloc FoodFirst QuickStrip Model 652 pump, a pump specifically designed to meet the demanding requirements of meat and poultry processing operations.

Dramatically higher productivity

The Model 652 pump delivers flow rates approaching 500 gallons per minute. The rotor design produces low-product shear, preserving the integrity of shear-sensitive meat and poultry parts, and minimizing product damage that reduces yields.

Maintenance in minutes

Unibloc designed its FoodFirst pumps with understaffed maintenance teams in mind. A patented swing arm safely supports the heavy pump cover during maintenance, protecting workers from injury and allowing single-person service. Similarly sized competitive pumps require two technicians to remove the pump cover.

The pump's simple, one-way part assembly uses a minimum number of parts, eliminating confusion during reassembly and ensuring proper reassembly every time. Even newly hired technicians can quickly learn the straightforward procedures.

Cost-slashing sanitation design

The game-changing QuickStrip FoodFirst technology transforms the cleaning process. Sanitation routines take just minutes to disassemble and clean. Technicians can strip down the pump quickly and reassemble it without tools that might damage components during daily sanitation cycles.

The rotor bolt-free design eliminates a common failure point — mistorqued bolts that can back out, contaminating product and causing catastrophic pump failure. Perhaps most importantly, Unibloc machines the pump housing from a solid block of 316L stainless steel, eliminating weld crevices where bacteria can hide and multiply between sanitation cycles.



A Unibloc QuickStrip FoodFirst 600 Series pump. The bolt-free rotors slide out easily without tools, simplifying cleaning

Results That Deliver Proven Pump Performance

The impact of switching to the Unibloc 600 Series pumps exceeded the processor's expectations across every metric.

Met customer demand

Pumping with minimal product shear enabled the processor to meet all customer delivery requirements through increased pump productivity alone — without the cost, space or delays of adding a new processing line. The company maintained its competitive position and customer relationships during a critical growth period.

Maximized production uptime

Processing lines achieved significantly greater uptime through multiple improvements:

- Simpler maintenance procedures reduced service time and eliminated reassembly errors.
- Unplanned maintenance virtually disappeared as the Unibloc design eliminated common failure modes.

The plant's previous lobe pumps used bolts that, on occasion, loosened during operation, requiring emergency maintenance and creating contamination risks. The Unibloc QuickStrip FoodFirst pumps solved this problem by eliminating the need for rotor bolts in the design.

Simplified training and operations

The streamlined design with fewer parts made training faster and reduced the complexity of spare parts inventory management. New maintenance technicians could confidently service the pumps after minimal training, addressing the staffing challenges that initially drove the search for better equipment.

Delivering premium total cost of ownership

Unibloc Hygienic Technologies met every challenge this processor faced — and delivered value that extended far beyond solving immediate problems. The QuickStrip FoodFirst 600 series pumps increased processing efficiency without creating visible product imperfections, simplified operations for an understaffed maintenance team and enhanced food safety through superior sanitary design.

As one maintenance manager on the team said, "These Unibloc pumps are well built. In fact, they're bulletproof. The maintenance crews like them. They're a really nice and solid pump. They are easier to clean and better for food safety."



About the Author

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Mark Boyd is vice president of Unibloc Hygienic Technologies, a global leader in precision-engineered pump and fluid handling technologies. He joined the company in 2021 after leadership positions with Danaher Motion and other companies in the industrial automation sector.

Unibloc Hygienic Technologies provides a broad portfolio of powerful solutions for companies around the world.



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