Austrian company Klinger recently needed a new pump system to improve the efficiency and reliability of its bottle washing machines. Xylem’s Lowara Vogel pump series provided a flexible solution that is able to withstand harsh conditions.

Klinger Flaschenwaschsysteme GmbH, based in Langenlois, Austria, manufactures bottle washing systems with the capacity to handle up to 20,000 bottles per hour.

Industrial washing systems for boxes, pallets, crates and bottles operate under tough conditions. Extremely hot water and acidic cleaning agents have a powerful corrosive effect on the equipment. In addition, water use varies throughout the washing cycle, requiring the equipment to be both versatile and very reliable.

Klinger has been producing washing equipment for the beverage industry for more than 50 years, and is known for its tailor-made solutions designed to meet the diverse needs of its customer base. Quality, reliability, flexibility and functionality are key for Klinger, along with efficient customer service.

Finding a new pumping system for tough conditions

Constantly seeking to improve its systems, Klinger recently decided to equip its machines with a new pump system. In addition to resisting the aggressive cleaning liquid used – a three percent, pH 11 caustic soda (NaOH) solution – and high temperatures reaching 85 degrees Celsius, the pumps had to be able to operate continuously every day on an eight-hour shift.

Whereas most systems that cannot risk downtime due to stoppages have a back-up pump that can take over if the master pump fails, this was not possible for the Klinger machines, due to the extremely limited available space. This posed a further challenge for the customer – and for Xylem’s engineers.
“After the first briefing with Klinger, it was clear that we had a major challenge ahead of us,” says Damien Galzin, Global Product Manager, Centrifugal Pumps at Xylem. “Aggressive liquids, continuous operation and tight installation spaces are three variables that you usually don’t want to see together. But this is the kind of challenge we love. We work hard to solve water, and provide the best solutions for our customers’ needs.”

A reliable solution with nearby Xylem support
The Xylem Austria team selected three different pumps for this application: the Lowara Vogel Series e-SHS, e-NSCS, and LSB, all of which allow for straightforward installation and assembly even in small, confined spaces.

“Xylem offered the best solution: a flexible, reliable system and good quality products and services, but even more important to us was the proximity of Xylem Austria to our plant in Langenlois,” says Hr. Ing. Gerhard Allinger, Head of Technical Procurement at Klinger Flaschenwaschsysteme GmbH. “This guarantees a quick reaction time and a closer relationship, which means peace of mind for us and, most importantly, for our customers.”

Three Lowara pumps that met the challenge
The Lowara Vogel Series e-SHS end suction pump with stub shaft is made from AISI 316 stainless steel, making it the ideal choice for use in aggressive environments or for pumping mildly aggressive fluids. Its compactness and reliability makes it suitable for use in various OEM applications. Newly designed high efficiency hydraulics and – IE3 motors provide the basis for low operating costs. Equipped with a Xylem HYDROVAR variable speed drive, the motor can adjust its speed to match the variable system demand, with energy savings up to 70 percent compared with fixed speed pumps.

The Lowara Vogel Series e-NSCS cast iron end suction pump combines high efficiency with high flexibility. The robust design, different bearing frame sizes and stainless replaceable wear rings ensure a long service life. The e-NSCS pump is designed for ease of maintenance, with easily reachable service points to reduce downtime. For this particular application, Xylem Austria specified a stainless steel housing for enhanced durability, and a close-coupled configuration for compact installation.

The Lowara Vogel Series LSB single stage end suction pump in close coupled (block) design features delivery of up to 450 cubic meters per hour (m3/h) and a maximum operating pressure of 16 bar. The selected model has a delivery of 200 m3/h with an operating pressure of 1-2 bar, and is sized for the correct operation of Klinger’s equipment.