

DME digital dosing pumps improve glass production

Wisthoff Glassworks in Germany is a subsidiary of the international Group Gerresheimer. The group manufactures high-quality glass and plastic-based packing for the pharmaceutical and cosmetics industries. Wisthoff is specialised in producing pharmaceutical glass containers such as pill bottles, transfusion bottles, dropping bottles and perfume bottles. Recently, Wisthoff invested in a new modern glass melter, in order to improve the quality of their glass production.

Grundfos provided

- › Precise dosing of additive
- › Improved product quality
- › Cost-effective solution
- › Higher productivity
- › High accuracy even at small flow rates
- › Minimized pollution

The situation

Basically, the problem was that it was not possible to adjust the mix of water and oil precisely in the cooling process. Therefore, cutting marks on the bottles appeared and since it is not possible to sell products with defects, the bottles had to be remelted.

This calls for a more detailed explanation of the different steps in the melting process. Once the glass is melted down in the melter at 1400°C to 1500°C, it flows through the channels to different machines. The red-hot bar of molten glass is transferred into bottles at special cutting units in the production line. By means of a cutter, the glass is cut into pieces. To prevent the cutter from leaving cutting marks on the bottles, a small amount of cooling emulsion, oil and water, is sprayed on it. In that way the risk of the cutter from becoming blunt at such high temperatures and consequently leaving marks on the bottles, is reduced considerably.

The Grundfos solution

Until recently, the ten production lines at Wisthoff Glassworks did not have their own cutting unit. Before the company's investment in the new cutting coolant unit, coolants for the machines were supplied centrally. The mixture of water and oil was the same for all the machines, regardless the type of the machine.

The Grundfos DME Digital dosing pumps come with a variable speed stepper motor. The result of this construction is an extended discharge phase that gives a better and more even mix of additive. The stepper motor regulates its own speed so that the discharge phase extends from suction phase to suction phase. With the Grundfos DME Digital Dosing pumps it is possible for Wisthoff Glassworks to optimise the mix ratio of additive that is oil and water, individually. Thereby the company ensures a higher dosing precision for each of the 10 production lines, and in the last resort an improved quality of glass.

The outcome

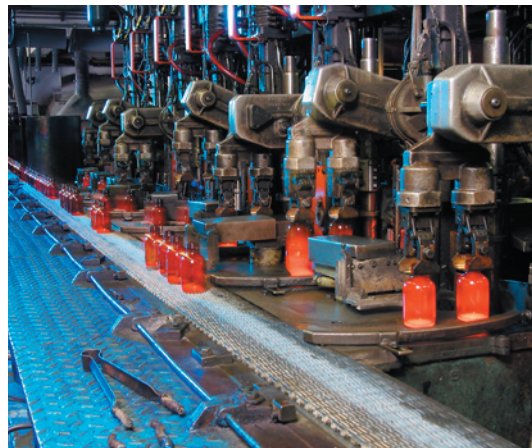
Today, each production line has its own cooling unit with individually set DME Dosing pumps, specially adjusted to the different type of machine. "The new technology behind the stepper motor, that makes precise dosing possible, is what really convinced us to choose Grundfos as a dosing pump supplier", says Technical Manager Ralf Kammerer. And he continues, "not only has our investment resulted in highly precise dosing, improved product quality and higher productivity, it has also led to more stable production costs, because a smaller amount of coolant lubricant is necessary in the production."

Pumps used

> DME 2-18 AR dosing pumps



The DME dosing pumps at Wisthoff Glassworks in Germany.



The cutting unit at Wisthoff Glassworks that transforms the red-hot bar into bottles.

> **Read more about the Grundfos dosing pump range at**
www.grundfos.com/dosing

> **Contact**
For further information on this case please contact your local Grundfos office.