CASE STUDY

masosine Process Pumps

Low pulsation transfer for viscous mass

- **Constant smooth transfer of suppository mass at 35-38 °C**
- **High pressure pulsation peaks could cause dosing accuracy problems**

The company, Dr. Pfleger Arzneimittel manufactures branded products of many pharmaceutical companies at its ultra-modern production facility. In addition to tablets, capsules, ointments and creams, the site in Bamberg, Germany also produces suppositories.

Manufacture of suppositories requires low pulsation transfer of a highly viscous mass. The slightest fluctuation in temperature, or pressure, can cause the 4,000 to 6,000cP viscosity mass to harden, affecting the quality of the final product.

High noise levels and expensive maintenance lobe pumps

Initially, a rotary lobe pump was used to recirculate the suppository mass during production. “Not only did the rotary lobe pump have an annoyingly high noise level, but over time, maintenance costs increased,” reports Martin Schaller.

Consistent temperature between 35-38 °C, without pressure peaks

“At just two degrees below 35-38 °C, the mass would harden and settle, and the entire production process could come to a standstill.” said Schaller, Technical Services Project Manager. The homogeneity of the suppository mass, and the even distribution of the active ingredient, could also be affected.

Certa Sine pump was selected

“Compared to our previous rotary lobe pump, the mechanical seal of the Certa pump is much easier to access and it is much easier to clean,” said Mr Schaller.

Nine months uninterrupted pumping

During comprehensive preliminary tests over a period of nine months, not a single pump failure occurred. “The Certa pump has been working faultlessly in the production line to date. Plus, the relative ease of disassembly has led to time savings for cleaning and maintenance work”, confirms Mr Schaller. Furthermore, the use of the Sine pump has led to a significant reduction in the noise level in the preparation area.

Easy cleaning and aseptic assurance

Designed with only one rotor, one shaft and one seal, the number of parts in contact with the product is reduced to a minimum. Disassembly and cleaning are therefore much easier and quicker. In addition, this design offers significantly lower energy consumption than comparable positive displacement pumps. The Certa pump also offers extensive EHEDG EL Class I Aseptic and 3A certification and can be used in aseptic processes as it is bacteria-proof and requires no additional steam connections.

“Compared to our previous rotary lobe pump, the mechanical seal of the sine pump is much easier to access. Unlike the rotary lobe pump, manual cleaning of the mechanical seal can be done with minimal effort. In addition, the static flushing of the seal is much easier to carry out and the seal is also easier to control visually,” said Mr Schaller.

“The Certa pump has been working completely smoothly in the production line to date. The pump has no problems whatsoever handling the viscosity.

Most importantly, thanks to the virtually pulsation-free pumping of the viscous mass, the dosing pumps at the filling station work precisely and the suppositories are one hundred percent uniform.

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