



Technical Paper

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Reducing repair and maintenance costs by using magnet drive pumps in the bitumen plant of a refinery

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Summary

In the bitumen plant of a refinery in Southern Germany, high repair and maintenance costs for pumps with stuffing box packings led to a new pump concept being introduced at this site. Magnet drive centrifugal pumps were selected, which resulted in a decisive reduction in repair costs.

The pumps with stuffing box packings used previously had the disadvantage of high repair and maintenance expenses. Furthermore, the continuous leakage into the surroundings could no longer be tolerated. After lengthy tests with other sealing concepts had been unsuccessful, a magnet drive was finally tested.

Due to their design with respect to the sealing against the atmosphere, magnet drive pumps are leakage-free and only require low maintenance. Thanks to continued further development, this pump type has now been fully accepted by the chemical and petrochemical industries, and is also able to manage difficult delivery tasks. In the specific case, however, some technical obstacles had to be overcome at the beginning. The product to be delivered has a maximum viscosity of 450 mPas and a softening point of approx. 105°C.

The magnet drive pumps have been in operation without failures for about 2 years. The service lives have tripled thus far and the maintenance intervals have been significantly extended.