

Case Study

Lubrication of extruders in the packaging Industry

High-performance polyglycol H1 lubricant helps to save 2.1 % of energy and boost sustainability

The goal:
reduce energy consumption and pass audits

In partnership with Klüber Lubrication, the Graham Packaging plant in Rotselaar, Belgium reviewed the lubrication of its extruder gearboxes to identify potential for optimisation in terms of energy savings and better sustainability. The main goals were:

- Energy savings by using Klüber Lubrication gear oils
- Fulfilling audit requirements on energy savings and sustainability



Graham Packaging: committed to sustainability

Graham Packaging is a leading global producer of packaging products for food and other industries. They are headquartered in the USA and operate plants in North America, Europe and South America.

Status quo before working with Klüber Lubrication

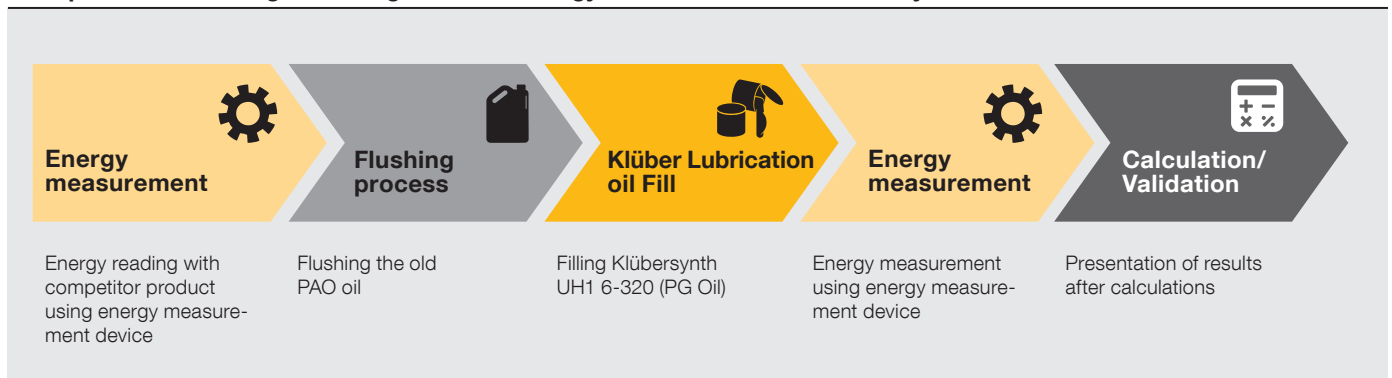
Before approaching Klüber Lubrication, Graham Packaging was using a competitor food-grade PAO¹ oil. Laboratory tests performed by Klüber Lubrication showed it was in good condition. Graham Packaging's motivation for starting the project was their aim to save energy.

Application information

- Gearbox OEM: Koellmann, Wuppertal
- Previous lubricant used: Competitor food-grade PAO 320 oil
- Oil capacity: 50 to 70 litres
- Maximum temperature: 40 °C

The Klüber Lubrication expert team suggested analysing the potential savings with an energy-efficiency project and, based on the results, changing from a food-grade PAO to a food-grade PG² oil.

Steps followed during the changeover and energy measurement with Klübersynth UH1 6 320



¹ polyalphaolefin

² polyglycol

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Benefits after using Klübersynth UH1 6 320, a polyglycol gear oil

Energy savings



2.1 %

Payback period



less than 11 months

CO₂ savings



11.2 tonnes
(equivalent to 5 trees/lifetime)

The answer: energy measurement and optimisation of the lubricant

With KlüberEnergy, Klüber Lubrication has developed a service that helps to systematically identify and realise the existing potential for increasing the efficiency of a company. Continuous measurement of the energy consumption obtained with the original lubricant serves as the starting point. Once the results have been analysed, Klüber Lubrication experts determine the saving potential and recommend a high-quality synthetic energy-saving lubricant as an alternative.

Klüber Lubrication experts exchange the lubricant and validate improvements on the machine by means of additional measurements. A professional evaluation of the measured data shows the amount of energy saved.

Conclusion

By using its vast experience in working with food industry customers and having conducted numerous energy efficiency projects, Klüber Lubrication was able to present to the Graham Packaging plant in Rotselaar, Belgium an efficient, energy-saving and sustainable solution.

“The combination of energy measurement and polyglycol gear oil helped us to save approximately 2.1 % of energy and the corresponding costs,” Johan Van Diest, Technical Manager sums up. “Additionally, it helped us to fulfill audit requirements on energy savings and support our sustainability goals. The close relationship between Graham Packaging and Klüber Lubrication has been a major pillar of this success.”

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