



Customer
Success
Story

We pioneer motion

High cost savings through Condition Monitoring and automatic lubrication

In his region the Belgian customer is responsible for water management. One of his tasks is to maintain the operation of the pump stations. To prevent pump downtimes due to bearing damage, the customer implemented a predictive condition and lubrication monitoring solution for the station.

**Savings for the first prevented failure: 35,000 euros,
Savings for each additional damage prevented: 49,000 euros**

Customer benefits

- No unplanned downtime of the pumping station during ongoing operation
- No costs incurred by production stoppages
- No secondary damage to motors and pumps
- Low acquisition costs of monitoring systems
- Reduced maintenance costs
- Increased plant availability
- More safety due to self-reporting systems

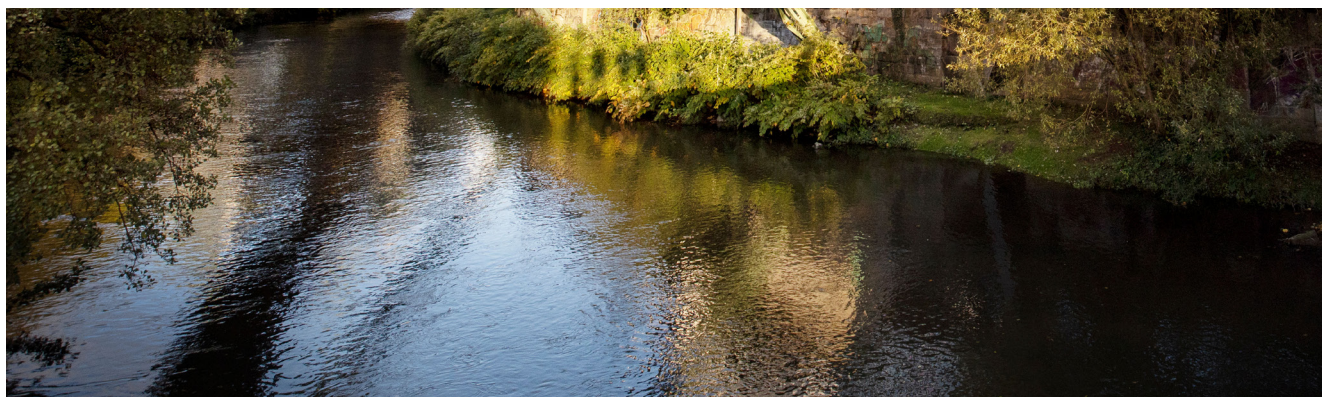
Customer
Supplier of pumping stations, Belgium

Sector
Water Management

Application
Pumps, motors

Solution
Condition monitoring and lubrication monitoring

What drives our customer ...



Challenge

To avoid flooding in his area of responsibility, the customer built a pumping station. A catch basin and three propeller pumps in the pumping station ensure that excess water is pumped out and diverted. Inadequate pump monitoring led to the unforeseen failure of a bearing, as a result of

which the pump wheel began to vibrate, causing 5 cm of wear to the pump housing. In order to prevent pump failures due to bearing damage in the future, the customer sought to find a predictive monitoring solution for the pumping station.



Technical Information

Motor (pump)

Output – 110 KW

Pump

Output – n:600tr/min – Q:5040m³/h

What Schaeffler has to offer ...

Solution

Schaeffler experts recommended the automatic lubrication system CONCEPT2 for the lubrication of the pump bearings. This solution permits ongoing and reliable lubrication of the bearings. The CONCEPT2 system supplies two lubrication points independently of each other and withstands a pressure of 50 bar.

Schaeffler recommended the use of the Schaeffler SmartCheck for monitoring the upper and lower bearings in the motors. Any deviations and changes in vibration behaviour are detected by the SmartCheck and reported via a customer control system, thus allowing incipient bearing damage to be detected at an early stage. The local certified Schaeffler distributor recommended the systems and will be providing on-site service advice in future.

What's special

As the pumping station is not manned on a permanent basis, remote monitoring is a sound alternative means to observe the system. This holistic solution can also be applied and extended to other units in almost any plant.



Technical Information

Condition Monitoring

9 SmartChecks for 3 pump/motor-units; 2 SmartChecks per unit for top and bottom motor bearings;
1 SmartCheck on pump bearings

Monitored units

Pump bearings and motor bearings

Monitored operating parameters

Vibration, temperature, speed, cavitation

Diagnostic procedures

Speed, acceleration and envelope

Lubrication monitoring

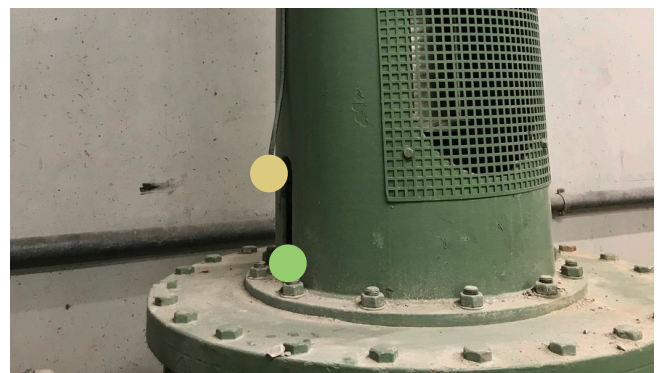
6 lubrication systems CONCEPT2

Lubrication points

Motor and pump bearings



Motor monitoring with SmartCheck and lubrication system CONCEPT2



SmartCheck and CONCEPT2 for pump monitoring and lubrication

 Lubrication monitoring  Condition monitoring

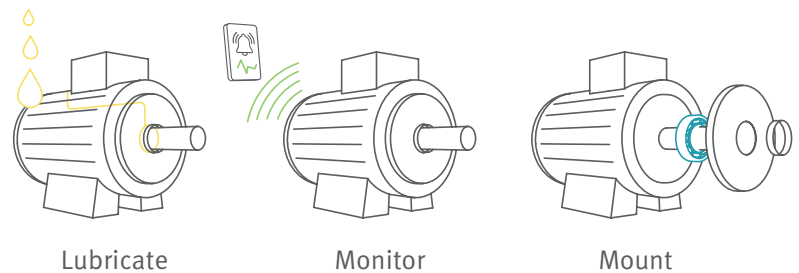
What our customer saves ...

Assuming only one pump bearing damage per year,, the following savings would be achieved with the monitoring systems:

Estimated savings with the SmartCheck and CONCEPT2

| | |
|--|-----------------|
| Annual maintenance expenditure (8 h) | 1,000 € |
| One-time expenditure for SmartChecks and Concept2 | 14,000 € |
| Pump damage without monitoring systems | 50,000 € |
| With monitoring system | |
| Cost savings following initial damage | 35,000 € |
| Cost savings for each additional damage prevented | 49,000 € |

SmartCheck and the lubricator CONCEPT2 are part of the Schaeffler Lifetime Solutions portfolio, which offers a comprehensive range of products, services and solutions for industrial maintenance. It is designed to support maintenance engineers throughout a machine's entire lifetime.



www.schaeffler.de/en/lifetime-solutions

Customer

The customer is part of the policy area Environment of the Flemish government. The range of tasks includes water, air and climate adaptation.



Always in control of the machines with SmartCheck and the associated software



A good choice:
Lubrication monitoring
with CONCEPT2