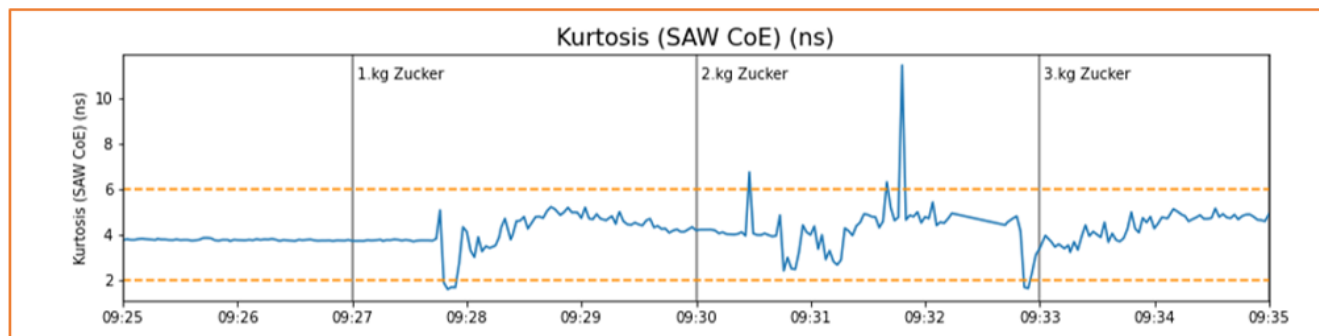


Two examples of seal monitoring

1. Sugar crystals inside the seal

Below you can see a diagram, a food pump that initially only pumps water. Crystalline sugar was then added to the tank.

This dissolves only partially and individual crystals enter the lubrication gap of the seal.



First you see that the characteristic values are at a kurtosis value of 4 until the sugar is added.

From the addition of the sugar onwards, significant fluctuations occur in the characteristic value of the seal. From 9:30 on, the characteristic values set for this pump are exceeded.

You will receive such characteristic value exceedances directly as an alarm via the web app. You can also receive daily and weekly reports from the system that also reflect whether characteristic value exceedances or problems have already

occurred in the past. If you see that these incidents are accumulating, this is a clear indication to take a closer look at the pump and, if necessary, perform maintenance before major damage occurs that could trigger a breakdown. This is made possible by the sensors collecting information directly on the smart mechanical seal and then evaluating this information via the BeMoS controller.

Condition monitoring via Web-App

Contact us

BestSens AG
www.bestsens.de
info@BestSens.de

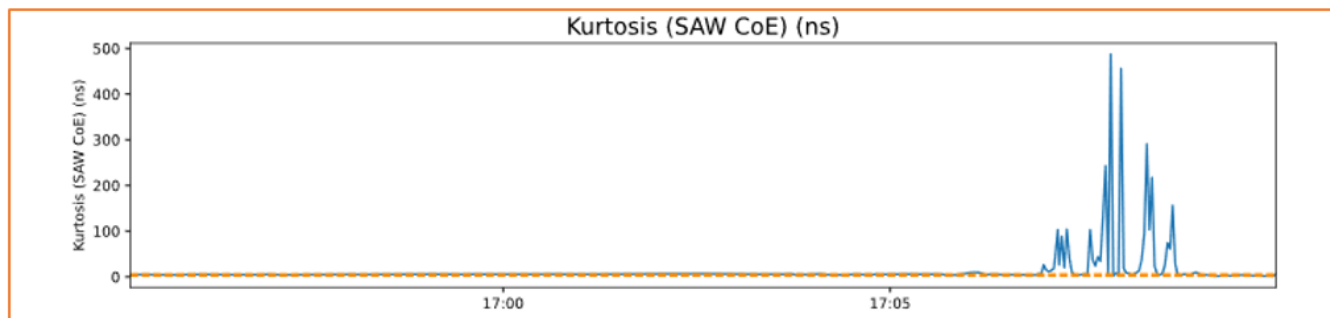
METAX
www.metax-gmbh.de
info@metax-gmbh.de

2. Dry run of the seal

In this test setup, the medium was gradually withdrawn from the pump.

The tank emptied steadily and the pump ran in

the worst possible condition, dry. Within a few minutes, the seal can suffer massive damage or break.



The diagram shows, as long as the seal is still supplied with a lubricating film by the pumping medium, the characteristic value is also in a low range as in the example before. As soon as dry running occurs (start after 17:05), the characteristic values abruptly shoot up.

As soon as you receive a dry-running warning, you can adjust the operating mode of the pump (e.g.

through other start-up processes) and thus avoid permanent damage in the future. Before the seal breaks, an emergency shutdown can also be performed, thus saving particularly expensive and specialized equipment. The contamination of sensitive products by a broken seal is thus avoided and also the batches of the conveyed product remain safe.

Summary

The products and solutions offered by BestSens in cooperation with METAX are well thought-out, field-tested and, as smart components, can be

quickly implemented as IIoT solutions with little effort on the part of the pump manufacturer and user.



For ten years, the name BestSens has stood for cutting-edge sensor technology and the ambition to give our customers the competitive advantage through the digitalization of their products, thus ensuring sustainable market success. We are your experienced full-stack IIoT partner for rotating machinery and can effectively reduce the risks of failures and increased repair costs with our technology. In this way, you achieve your digital competitive advantage with us step by step in a guided process.



For more than 30 years METAX Kupplungs- und Dichtungstechnik GmbH is a successful sealing partner for any number of industrial sectors. Our wide range of seals includes simple sealing elements as well as complex sealing systems for sophisticated applications. Our core competence is the configuration, selection and design of rotating sealing arrangements (mechanical seals, rotary joints or radial lip seal systems) adapted to the specific customer requirement as a single piece or for a series production.

Contact us

BestSens AG
www.bestsens.de
info@BestSens.de

METAX
www.metax-gmbh.de
info@metax-gmbh.de