



Upgrade from packing to mechanical seals for reliability

A paper company in Germany were operating the majority of their pumps using mechanical packing. The packing required a lot of water to operate acceptably, the opinion of the site was that packing was both less expensive and more reliable than mechanical seals.

AESSEAL® worked with the site to demonstrate that this was not actually the case. A study was made to review the relative costs of both solutions and the resulting reliability.

The study compared the costs of packing with an AESSEAL® CDSA™ dual mechanical seal with a 10 litre SW2 seal support system. In addition the LabTecta® 66 bearing protector was installed on the pump bearing housing to protect the bearings and maximise their life.

The benefits of the CDSA™ and SW2 system were:

- The water flush could be eliminated and water consumption was all but eliminated
- The energy used to drive the pump was reduced (as the mechanical seal had less friction than packing)
- There was no wear on the pump shaft sleeve
- Cooling water was no longer entering the process and therefore energy was saved if no longer needing to add additional heat to the process fluid and ultimately having to evaporate off the excess water
- The flow indicator included as part of the SW2 system acts as an indication in the event of seal failure, which would previously have gone unnoticed with packing

'Less water, less energy'

Industry:	Pulp & Paper
Product:	CDSA and SW2, LabTecta
Application:	Paper
Savings:	£17,500
Reference N.O:	ROI-2020-061





ENVIRONMENTAL TECHNOLOGY

The packing was found to have a cost of €7,317 / year and the mechanical sealing solution a cost of €445 / year. The sealing solution had an up-front cost of €3,300 which was paid for in just 166 days. The largest cost when using packing was the cost to reheat and evaporate the seal water, this amounted to more than €6,000 per year.

Having demonstrated the financial benefits of mechanical seals over packing, the reliability of the mechanical seal solution was found to be much better with a MTBF of 36 months compared with just 18 months for the packing. Over a three year period the customer has saved almost €17,500 and seen an improvement in reliability.

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