



ENVIRONMENTAL TECHNOLOGY

## Lower costs and greater reliability for US pharma company

Frequent seal changes and heavy water use were causing operational problems and rising costs for a US pharmaceutical company.

With its previous single seal system, heavy particulate in the Amine broth was leading to problems with face integrity, and high concentrations of caustic solution would crystallise on faces during a clean-out. Single seals are in widespread use at this site because the end product is a white powder, and it is essential to prevent water ingress in most areas of the plant.

According to the organisation's asset health database, there had been no fewer than 34 seal changes between April 2003 and May 2019, an MTBF of more than two failures a year. Finally, the company approached AESSEAL® to ask if it could find a way to alleviate the problems.

In August 2017, AESSEAL® installed its CDSA™ double seal in combination with its SW2™ 10 litre seal support system and water filter. This is installed on an Ingersoll Rand HOCII process pump.

As a result, more than five years later, the seal has been changed just once since that date, and this was only because the bearings had not been replaced at the time of the original installation. Since the change it has shown no internal or external signs of leakage. The tank system has also led to a huge reduction in the use of water resources, an important consideration in view of the fact that the site uses city water as general use plant water, and in some cases very expensive deionized water...

### 'Major benefits in reliability'

Industry:	Chemical
Product:	CDSA™ & SW2™
Application:	Amine broth
MTBF Increase:	500% (and counting)
Savings:	>\$1,000 each year
Reference N.O:	TD3074233



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A company engineer said the changeover had brought major benefits in reliability.

“These pumps have been a huge improvement,” he said. “We have not had to touch them for a very long time.”

Although dual seals are not used on this site because of the vital importance to prevent any water ingress at any stage of the process, there are nevertheless some pump applications which can use dual seals. AESSEAL® has therefore been working closely with the company’s site reliability team to determine where they can be implemented while minimizing any risk of damaging the product. Dual seals and tank systems have proven their value in these particular applications.

In addition to the operational benefits, the company has also seen a huge reduction in costs. The cost of the CDSA™ and tank was less than \$3,000, while the frequent rebuilds needed to the previous system were costing more than \$1,000 a year, not including labour costs and loss of production. Its maintenance teams also have more time to turn their attention to other areas of the plant.

The success of the AESSEAL® system has prompted the company to upgrade a sister pump to a dual seal and tank system, and the vast improvement in reliability has led to discussions about the possibility of the further use of dual seal and tank systems.



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