

Case Study

AHLSTAR APP Pump with Dynamic Seal, the Perfect Solution for the Zinc Industry



AHLSTAR APP42-150 Pump

Project Highlights

In the zinc manufacturing process, many pumps are used for zinc electrolyte pumping and neutral solutions pumping. These are the main applications in the zinc manufacturing process. Zinc electrolyte is a corrosive liquid with up to 200 g/l of H_2SO_4 . It is also quite hot, so the material selection is important. Another liquid type - neutral solution - is also corrosive and can crystallize, too.

The Challenge

Because of high importance and constant operation, the customer requires reliability, low maintenance and robust design from the pumps. The customer was looking for a pump that can meet all these requirements. Earlier, the customer used to have locally made pumps, but for more than 10 years AHLSTAR APP process pumps have served well and the customer is satisfied.

The Solution

AHLSTAR APP process pumps in super duplex 4T material with the Dynamic Seal were tried in this application. The customer is satisfied with the Dynamic Seal, because the use of water for sealing is forbidden, since no water should go into the process. The Dynamic Seal is reliable and practically maintenance free. This solution is cost effective, the wetted parts of the pump last for many years, and corrosion is very low. The static seal requires changing after some time, but it is quite cheap and not difficult to replace.

Customer Benefits

The customer is very satisfied with the pump material and Dynamic Seal. The customer has tried different materials in this application, but 4T showed the best results. Spare parts are not needed because the rate of corrosion is low.

The Sulzer Difference

The combination of correct material selection and seal selection gave a perfect result and a satisfied customer. These pumps have been in operation for more than 10 years. The customer has bought many pumps with the same seal type and same material for a similar application.

Pump Data

Pump	AHLSTAR APP42-150 , Dynamic Seal, ser. no 100086925
Material	4T
Capacity	400 m ³ /h
Head	22 m
Speed	1450 rpm
Motor power	55 kW

Process Data

Zinc electrolyte or neutral solutions	
H_2SO_4	170 g/l (or neutral solution with pH=4)
Temperature	60 °C max
γ	1400 kg/m ³
Solids	1 g/l
Solids size	100 mkm

Contact

merja.parssinen@sulzer.com
www.sulzer.com

Applicable Markets

Base Metals

Applicable Products

AHLSTAR Pumps