SULZER

CASE STUDY

AHLSTAR A pump solves handling of strong sulfuric acid liquid

The most common phosphoric acid manufacturing process requires the addition of concentrated sulfuric acid to phosphate rock material in the reaction phase. This is a basic pumping application but requires high reliability.

“A troublesome application with low reliability was transformed with the new arrangement. The pump now requires minimal maintenance and the installation is stable and problem-free. The customer was very satisfied.”

The challenge

In this challenging phosphoric fertilizer industry application, the existing pumps were fitted with a gland packing seal without flush water supply. The pumps required too much maintenance considering such relatively basic application. The leakage coming from the packing rings was also damaging the baseplate.

The solution

The solution was an AHLSTAR A process pump in duplex 41 material with an unflushed single mechanical seal. Also fitted to the pump was a bottom drainage arrangement with corrosion resistant pipework and valve.

Customer benefit

The reliability of the installation improved considerably, with an acceptable operating lifetime of the sealing device and significantly lower labor costs. The installation was further optimized by reducing vibration levels by strengthening the concrete foundation and pump realignment.

Product data

Pump	AHLSTAR A23-40
Material	41, JC-T10T
Capacity	25 m^3/h
Head	32 m
Speed	1’450 rpm
Motor	15 kW, 1’500 rpm

Process data

Sulfuric acid	92-98%
Temperature	40°C max
No solids	

AHLSTAR A23-40 pump

For any inquiries please contact

info_fmmcpi@sulzer.com

sulzer.com