

## CASE STUDY

# Self-priming AHLSTAR Pumps Replace Archimedean Screw Pumps in Industrial Wastewater Treatment Plant

Located near Salvador in Brazil, the Camaçari petrochemical complex is the nation's biggest industrial park with more than 90 plants. All its industrial effluents are collected and conveyed to a centralized secondary wastewater treatment plant operated by Cetrel, an Odebrecht Ambiental company. In the activated sludge recirculation process, expensive maintenance was needed for the Archimedean screw pumps that had been in operation since 1978. Cetrel decided to replace them by more cost-effective and efficient pumps.



Cetrel industrial wastewater treatment plant in Camaçari/Bahia-Brazil

*“ Nowadays dealing with reliable suppliers is of paramount importance. Sulzer provides us with innovative solutions, and the new self-priming pumps have exceeded our expectations. ”*

José Batista da Silva, Effluents Operation, Cetrel

### The Sulzer difference

As a world leader in innovative solutions, Sulzer provides optimal pumping systems for replacing the equipment in an industrial wastewater treatment plant. The client can benefit from:

- Easy and economical retrofit
- Increased reliability and higher efficiency
- Improved working conditions
- Lower maintenance and operational costs

### The challenge

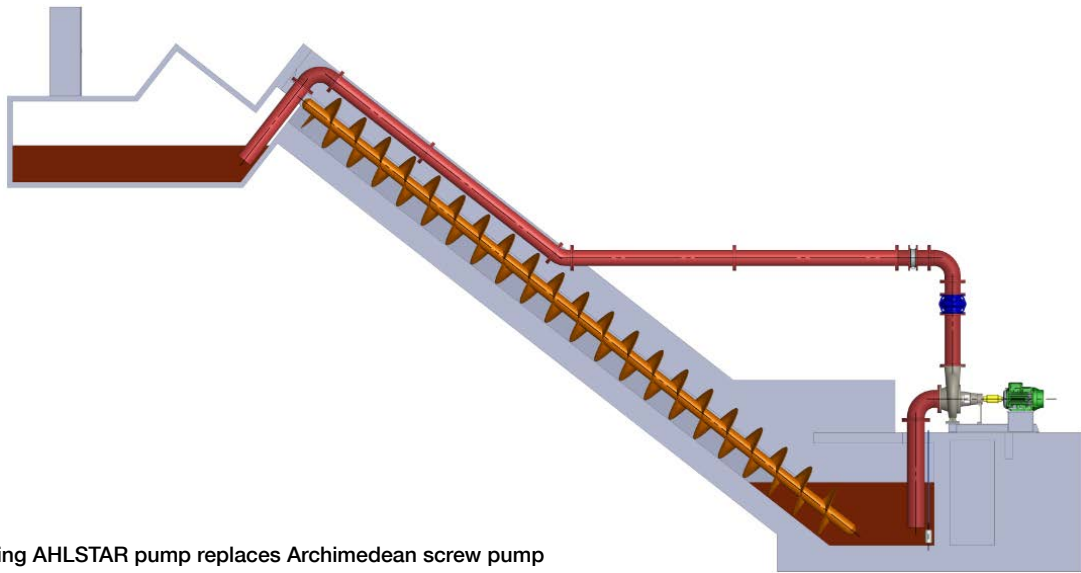
The Archimedean screw pumps experienced reliability issues and required frequent maintenance. The main challenge was to replace them without stopping the operation. This called for a perfect understanding of the installation and the process requirements, as well as of how to adapt the new pumps in the existing building. Also, once installed, the new pumps should be maintenance-friendly and reduce operational costs remarkably.

### The solution

Sulzer delivered six AHLSTAR APP43-300 S self-priming centrifugal pumps in replacement of the six old screw pumps. Thanks to its integrated liquid ring pump, the APP-S has a high suction capability (even at low speed) and can easily prime the suction pipe. The six complete APP-S pumping units could therefore be installed above the liquid level on the suction side. This greatly facilitated the retrofit of the pumping station.

### Customer benefit

As a well-known supplier for both municipal and industrial wastewater applications, Sulzer was able to define the best pumping solution for the process specification. The AHLSTAR APP-S self-priming pumps have an increased overall efficiency compared to the previous Archimedean screw pumps. The new pumping units are also much more compact than the old ones. Finally, the activated sludge is now transferred gently and the risk for splashing that would occur with the old open structure has been totally eliminated.



Self-priming AHLSTAR pump replaces Archimedean screw pump



Self-priming AHLSTAR APP43-300 S pumps

## Product data

AHLSTAR pump APP43-300 S	
Flow	700 m <sup>3</sup> /h
Head	7.4 m
Sludge D.S content	5% max
Impeller	Special open – 360 mm
Speed	900 rpm
Motor power	30 kW
Pump efficiency	75.7 %

### Contact

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### Applicable markets

Pulp and paper industry, general industry, chemical process industry, water and wastewater

### Applicable products

AHLSTAR process pumps