

CASE STUDY

Aquaviva Treatment Plant in Cannes, France Installs Sulzer Mixer after Successful Test Period

The Aquaviva wastewater treatment plant receives effluents from eight cities around Cannes, averaging almost 16 million m³ of treated wastewater annually. It has a capacity of 300 000 population equivalents. The level of treatment is higher than the European standards require, because after the biological treatment, the separation of biological sludge is provided by a membrane technique instead of a traditional settling technique. The treated water is discharged into the sea at a depth of 85 meters and at a distance of more than 1 200 meters from swimming areas.

The construction and operation of the Aquaviva station was mandated by the Syndicat Intercommunal d'Assainissement Unifié du Bassin Cannois (SIAUBC) to Suez for a period of 20 years (2009-2028). Since March 25, 2012 Aquaviva has now treated the wastewater of eight towns in the catchment area: Auribeau-sur-Siagne, Cannes, Le Cannet, Mandelieu-La-Napoule, Mougins, Pégomas, La Roquette-sur-Siagne, and Théoule-sur-Mer.



Aquaviva, an innovative treatment plant that meets the requirements of the Grenelle Environment

“ *The fact that the engine torque of the Sulzer mixer remains more or less constant, irrespective of the speed and rotation direction, was decisive for our selection.* ”

Mr Anders Mencaglia, Suez, in charge of equipment selection at the treatment plant Mandelieu

The Sulzer difference

- The customer's problem was solved: the propeller stays clean
- Motor efficiency up to 91%
- The Sulzer mixer type ABS XRW 400 is eligible for the energy saving certificate N° IND-UT-114 "Moto-variateur synchrone à aimants permanents"

The challenge

As a partner supplier of the Suez Group, Sulzer presented its innovative range of Premium Efficiency mixing solutions to the Mandelieu Aquaviva station in March 2015. During a consultation regarding the replacement of a mixer with a three-phase asynchronous motor in a grease stripping tank / storage tank, Mr Anders Mencaglia, operator in charge of the local equipment, addressed a problem. He had experienced some failures with the existing mixer, a competitor's brand, installed in the external grease tank. The mixer was located in a small tank that receives grease from the nearby restaurants. Because the grease was not homogeneous, the operator had to clean the mixer several times a week so that the rags would not damage the propellers.

The solution

To solve the propeller cleaning problem, Sulzer has developed an automatic rag handling function for the new mixer type ABS XRW, which is provided with a permanent-magnet motor controlled by a variable-frequency drive. A test period with the new mixer that provides automatic cleaning, momentarily reversing the direction of rotation, convinced the operator.



Mixer inspection after six months of operation



Since October 2015, a Sulzer submersible mixer type ABS XRW 4031A-PM30/10 with a rated power of 3 kW has worked on site, installed on a guide bar 60x60 mm of 3 m.

“ *Sulzer solved our problem with an innovative technical solution. The test of the Sulzer mixer under challenging conditions was successful.* ”

Mr Anders Mencaglia, Suez, in charge of equipment selection at the treatment plant Mandelieu

Customer benefit

- Sulzer has concluded a framework agreement with Suez
- As a partner supplier, Sulzer provides technical support, starting with the principle of trial sales
- Self-cleaning mixer function thanks to variable frequency drive
- Easy propeller maintenance
- Process optimization through variable speed and constant torque of mixer
- Lower energy consumption (almost constant efficiency over the entire range)
- Reduced operating and maintenance costs

Product data

Submersible mixer type ABS XRW 4031A-PM30/10

- Premium efficiency (IE3 equivalent) sensorless permanent-magnet motor controlled by variable-frequency drive
- Stainless steel construction, permanent magnet motor 3 kW 10 poles, variable-frequency drive, 400 mm propellers (3 blades)
- Easy installation and removal due to compact design and low weight
- Variable speed to match the real mixing need and manage the changes throughout the year
- Long lifetime thanks to very low operation temperature (+30°C at rated power)
- High overload capacity
- Pre-loaded upper bearing
- Oversized motor shaft for reduced deflection
- Low energy consumption
- High-performance and self-cleaning propeller, hydraulically optimized, stainless steel AISI 316
- Galvanically insulated guide tube and suspension

Contact

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Applicable markets

Wastewater treatment

Applicable products

Submersible mixer type ABS XRW