

## Sulzer mixers designed to tackle digested sludge

The wastewater treatment plant of Crispijana, operated by the municipal water and sewage company Amvisa (Agua Municipales de Vitoria-Gasteiz, S.A.), treats the wastewater from the city of Vitoria-Gasteiz, Álava, Spain. The plant has a capacity of 120'000 m<sup>3</sup>/day, 500'000 population equivalent. It has undergone a number of changes and extensions since it was opened in 1984. During the latest upgrade in 2016, the mixing problem caused by the high sludge content was solved.



*With the two new mixers in action, our customer can see the sludge moving and small bubbles forming in the digestion tank. This proves that the RW 4814 mixers are doing what they are supposed to.*

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### Product data

Three submersible mixers RW 4814 A110/4 – two in operation and one as stand-by – were installed in a round secondary digester with the following dimensions

- Diameter 20 m
- Circular sidewalls depth 4 m
- Center depth of conical tank floor 2 m
- Water level 4-6 m



### The challenge

Four submersible mixers of type ABS RW 6533 A100/12 were installed in the Crispijana WWTP several years back. Before this, the treatment plant used another manufacturer's brand. After a short period of time, however, all mixers started experiencing frequent bearing failures and motor burnouts. This was due to the high concentration of sludge, which makes mixing a tough task.

### The solution

After thorough discussions with the customer, Sulzer suggested and installed two new submersible mixers of type ABS RW 4814 A110/4 to replace the ones that did not achieve the required mixing result. The new mixers are specifically designed for highly concentrated and thickened sludge. A gear box allowing low speed rotation makes the mixing of sludge possible. After three years in operation, the mixers perform well and deliver very good mixing results.

### Customer benefit

The RW 4814 mixers are well suited for digested sludge with a concentration of more than 6%. The homogenization in the digester has improved significantly. The plant can now benefit from

- reduced repair costs
- efficient and trouble-free operation
- more than 30% savings in power consumption (rated current) of digester mixing
- previously, two mixers consumed 63.9 A – today two mixers consume 43.6 A

[Read more](#) about the RW mixers.

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