

Sulzer agitators for efficient wastewater treatment in a pulp mill

Asia Symbol (Shandong) Pulp & Paper Co., Ltd is located in the Chinese city of Rizhao, which served as the host for some of the Olympic events in 2008. In 2010, the world's largest single pulp line with a capacity of 5000 t/d started in Rizhao. Its wastewater treatment plant was designed and built by Aquaflow (Veolia), and the plant currently operates with an even smaller environmental impact than what the tough Chinese regulations prescribe. In such a wastewater treatment plant, each process needs the right agitation to achieve a satisfactory treatment effect. To fulfill various applications in the process, Sulzer supplied reliable agitators – both top-mounted and side-mounted – which minimize both power and chemical consumption.



“The reliable and flexible design of the Sulzer agitators match the most demanding process applications of our customers.”

Patrik Kolmodin, Business Development Manager General Industry

The challenge

- Wide range of application requirements, such as flocculation, flotation, chemical make-up and storage as well as sludge storage and mixing
- Minimize capital and operational expenditures by cost effective design and highest efficiencies
- Highest reliability required, since wastewater treatment plant cannot be shut down

The solution

Sulzer supplied 11 top-mounted and 4 side-mounted agitators for 8 different applications

- Flexible design, for both top-mounted and side-mounted agitators
- Tailor-made agitators for each position meet the demands of installation and process requirements
- Long and trusted experience in the field ensured right agitation intensity at minimum power

Customer benefit

Long-term customer relationship and Sulzer’s well-proven application knowledge within industrial wastewater treatment were the key factors for Aquaflow when selecting Scaba agitators. For example, sludge agitators were selected on the basis of the actual sludge characteristics, and flotation mixers can handle an air content of 40%. Side-mounted agitators were equipped with longer shafts to adapt to the actual tank wall thickness. With Scaba agitators, minimum power is needed while reliability is ensured.

Thanks to the tailor-made agitator solution, the wastewater treatment plant exceeds the tight environmental requirements. The reliable and flexible design of the delivered agitators perfectly match the demanding process applications of the customer and provide just the right agitation intensity at minimum power consumption.

Qty.	Application	Type	Tank volume	Inst. power
1	Sludge mixer, primary and tertiary sludge, 2-5%*	Side	62 m ³	7.5 kW
1	Urea dissolving, urea power + water	Top	6.5 m ³	1.1 kW
3	Flash mixer, wastewater + PAC	Top	10.8 m ³ /tank	11 kW
6	Flocculation mixer, wastewater	Top	115 m ³ /tank	0.37 kW
1	Flotation mixer, wastewater + 40% air	Top	50 m ³	0.37 kW
1	Sludge feed tank mixer, secondary sludge with fibres, 2-5%*	Side	145 m ³	11 kW
1	Sludge/liquor mixer, dried sludge 10%* and black liquor	Side	46 m ³	15 kW
1	Bio sludge agitator, bio sludge 1.5-3%*	Side	30 m ³	7.5 kW
1	Sludge mixer, primary and tertiary sludge, 2.5%*	Side	62 m ³	7.5 kW

*Dry solid content

For any inquiries please contact

patrik.kolmodin@sulzer.com

sulzer.com

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