
Grundfos is part of the world's secondlargest wastewater treatment plant

SHANGHAI, CHINA: Home to more than 12 million inhabitants, Shanghai is the largest city in China. With a documented history going back more than 2,150 years, the city is very old. Today it is a wondrous mixture of old and new – rickshaws and small, ornately gilded shops mingle with large cosmopolitan hotels and restaurants. Shanghai is also China's most important industrial and commercial centre and is famed for its dedication to high-quality products. It is no surprise, then, that Grundfos pumps were chosen for the large-scale Shanghai Zhuyan I wastewater treatment plant.

TOPIC:Wastewater treatment

LOCATION:Shanghai, China

COMPANY:Shanghai Youlian Zhyuan I
Sewage Plant Investment &
Development Co. Ltd.

THE SITUATION

A city as vast as Shanghai obviously needs efficient ways to handle its waste. In the past, most of the city's sewage was discharged deep into the sea. Two years ago, the Shanghai municipal government launched a 20-year BOT plan (BOT = Build, Operate, and Transfer). The main objective was to build a large wastewater treatment plant, a project which would comprise two phases.

The first phase will be completed by April 2004. When finished, the new wastewater treatment plant, Shanghai Zhuyan I, will serve half of downtown Shanghai. The plant covers a total of 8 million people, handling 1.7 million tonnes of wastewater each day. The scale of the project is impressive: the plant is the second-largest of its kind in the world.

THE GRUNDFOS SOLUTION

It was decided that the new plant should have aeration tanks for primary treatment. Based on the plans prepared by local

professionals – North China Municipal Design & Research Institute and the Shanghai Urban Construction & Research Institute – the customer went in search for the best aeration solution. A good relationship formed between the client and Grundfos, and the best possible solution was found. In August 2003 Grundfos delivered 12 excess sludge pumps (14 kW) and 16 recirculating pumps (45 kW) to handle the entire aeration process.

The pumps were designed for horizontal dry-well installation; having valves at both ends makes it easy to carry out inspection and maintenance. The pumps fit perfectly into locally made control cabinets, ensuring that the pumps are easy to control and adjust. For added safety, ultrasonic level sensors control sludge sedimentation and suction water levels.

The Grundfos pumps were the best solution because they gave the customer several advantages: they provide the lowest inlet water level as required by the customer and take up the least space due to their compact design. Very importantly, the special SmartTrim impeller design makes it possible to maintain peak performance without having to dismantle the pump to adjust the impeller. This minimises downtime and makes maintenance work quick and easy.

THE OUTCOME

When the project is completed, the pumps will help the Shanghai Zhuyan I wastewater treatment plant to treat vast amounts of wastewater that would otherwise have gone straight into the sea. Grundfos is proud to be part of this project, which improves comfort for the people of Shanghai and protects the environment to the benefit of all.

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