

# Water treatment plant in the Kunming Technology Park

## Situation

Kunming in the province of Nijaiying, China, is a technology park which is home to many ICT companies.

The Chinese government launched several tenders for the management of wastewater from nearby industrial and residential areas.

For the water disposal and purification area, we were asked to take care of the lifting of the wastewater by supplying pumping stations continuously operating 24 hours a day.

## Solution

The system requirements of energy efficiency and reliability were clearly defined from the very beginning.

For the application, it was also necessary to equip the machines with a cooling system capable of protecting the motor in case of prolonged use or potential conditions of partial submergence.

A solution which was suggested with models from the UNIQA series, high-efficiency submersible electric pumps suitable for operating in S1 mode even with semi-submersible motors.

Their innovative "closed circuit" cooling system guarantees the necessary heat exchange between motor and the environment by means of a special axial impeller fitted to the shaft which circulates a mixture of water and glycol inside a double jacket made of AISI 304 steel.

In this way, the mixture remains constantly separated from the wastewater and is not altered even in the case of accidental entry of contaminated liquid into the oil chamber as a result of wear of the first mechanical seal.

Due to the nature of the industrial effluents and the high flow rate required by the plant, engineers turned to UNIQA models with OC type channel impeller, the most suitable for lifting liquids containing suspended solids as a result of a wide free passage and high hydraulic performance.

Additionally, IE3 efficiency class motors made it possible to significantly reduce operating costs even in continuous operation mode.

## Benefits

UNIQA electric pumps equipped with FLX flushing valve were installed in the new lifting plant.

This accessory, fitted directly on the hydraulic body, produces a directional jet at each restart of the electric pump able to keep the wastewater in motion, preventing the sediment from settling on the bottom of the tank.

The plant operator and the local authorities were extremely satisfied with the performance and efficiency of UNIQA, which reduces both energy and maintenance costs as a result of its high reliability.



The UNIQA pump with cooling jacket lowered into the sump



The UNIQA pump during installation with DAC coupling devices

<b>Customer</b>	State Level Economic and Technological Development Zone Management Committee				
<b>Company Profile</b>	Municipalità				
<b>Location</b>	Kunming	<b>Country</b>	China	<b>Area</b>	Yunnan
<b>Application</b>	Impianto di Trattamento acque				
<b>Installed Products</b>	ZUG OC400A 55/6AD 410 x 3, ZUG OC100F 9/4AD 250 x 2, Valvole FLX x 5, DAC x 5				
<b>Date</b>	Gennaio, 2018				