TUMA-Pump, Lana, South Tyrol

Application market	Wastewater
Market segment	Wastewater Collection
Pumped medium	Raw sewage
Pump product	Immersible
Country	Italy

Challenge

In April 2020, after more than 20 years of operation, the Lana pumping station in South Tyrol was due for a general overhaul. The existing pumps had to be replaced. The operator's catalogue of requirements stipulated that **Hidrostal** pumps must be used again, but of the latest, highly efficient design. It was expected that no design or structural changes to the system would be necessary and that the new pumps would be able to cover the same operating points. The operator's pronounced energy and environmental awareness also demanded a higher overall efficiency, correspondingly lower energy consumption and therefore a reduction in the total life cycle costs for the new pumps.

Solution

Hidrostal supplied three new **Immersible Screw Centrifugal Pumps with self-cooling**. For the first time in the history of the **Hidrostal** Group, pumps with highly efficient motors from the **TUMA** product range with energy efficiency class **IE3** were used. The type and basic design for the hydraulic units were retained, but the adjustable version was used to compensate for wear.

Benefits

Thanks to the identical design of the hydraulics, the new pumps could be installed without any further structural modifications. In the higher efficiency class **IE3**, the new **TUMA**-motor is around 4% more efficient. With approx. 40 kW absorbed power by the hydraulic, annual operating time of approx. 1,000 hours and therefore total annual electricity consumption of around 40,000 kilowatt hours (kWh), this results in an electricity saving of around 1,600 kWh for the system. Despite the already high efficiency of the **Screw Centrifugal Pump**, the new **IE3** motor has made it possible to further reduce power consumption and, as a result, life cycle costs too. Thanks to its high reliability and operational safety, the new **Hidrostal** pump was once again able to fulfil the customer's high requirements to his complete satisfaction.

Quantity of units sold	3
Pump type	F06K-S01R + M225EF-54E1-NECDGFNN-10 – **TUMA IE3 Motor**
Motor data	54 kW / 4 pole / 50 Hz / 400 V
Material combination	Cast iron pump body and wear parts with nodular iron impeller
Duty point	Flow : 100 liters per second / Head : 25 meters
In operation since	2022