
Grundfos solves problems with corrosion in cavern plant

PUSTER VALLEY, ITALY: Central Puster Valley, Italy, is a famous tourist area with the river Rienz flowing through it. In the 1970s, the local authorities discovered that the catchment area of the Central Puster Valley was polluting the river Rienz, so it was decided to build a new wastewater plant. In the early 1990s, after years of searching for a location that would be acceptable to the general public, the South Tyrolean Government finally decided to build the Central Puster Valley wastewater treatment plant as a cavern plant inside Mount Tobl.

TOPIC:
Corrosion

LOCATION:
Puster Valley, Italy

COMPANY:
ARA Tobl wastewater treatment plant

For the cavern construction, 200,000 m³ of solid material were extracted from Mount Tobl, and 740 km of drilling and 220 tonnes of explosive agents were required. In 1996, after a construction period of only five years, the underground ARA Tobl wastewater treatment plant was put into operation. With a catchment area of 1150 km², it serves 14 communities in the Puster Valley.

THE SITUATION

When the plant opened in 1996 it was decided to install a flowmaker to handle the biological conditions in the ventilation tank. Consequently, a company was commissioned to install six 5.5 kW flowmakers to handle circulation in the ventilation tank. After a short period, however, the flowmaker installation did not live up to the promised performance, leading to unstable operation. The installation was examined and the technicians were convinced that the flowmakers had to be replaced due to corrosion.

ARA Tobl contacted the supplier of the flowmakers originally installed and requested an examination of the matter. The supplier did not confirm their suspicions, but claimed that the

problems were caused by small stones from the catchment area being returned into the system.

THE GRUNDFOS SOLUTION

Unimpressed by the handling of the matter and the questionable explanation from the supplier, ARA Tobl contacted Grundfos for a more in-dept examination of the system and a possible solution.

Grundfos consultants examined the system and confirmed ARA Tobl's suspicions about corrosion; a situation caused by flaws in the material used for the original flowmakers. Based on the survey and Grundfos recommendations, the broken flowmakers were replaced with two AFG.30.130.92 Grundfos flowmakers.

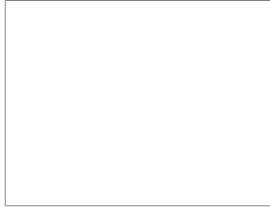
The Grundfos solution consumes less energy than the original solution, and at the same time performance has been improved considerably. Furthermore, the solution provided by Grundfos is highly resistant to corrosion because of the combination of composite blades, a motor protected by a two-component epoxy coating, and accessories made of stainless steel. Galvanic separation of all built-in parts also improves corrosion resistance.

THE OUTCOME

The manager at ARA Tobl wastewater treatment plant in Italy is very pleased with the Grundfos solution and the positive cooperation. Ever since the installation of the Grundfos flowmakers ARA Tobl has not encountered downtime or inconvenient maintenance requirements.

In fact, the people at ARA Tobl have been so pleased with the Grundfos equipment and their cooperation with Grundfos that they have subsequently placed nine more orders for Grundfos flowmakers.

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