



better together

## CASE HISTORY

# A solution for lifting sewage containing silicates in Abruzzo

### Situation

The earliest traces of the town of Roio Piano, population 500, in the province of L'Aquila, can be traced back to the thirteenth century AD.

Following the 2009 earthquake, a reconstruction process was initiated in several residential areas of the town.

One area of interventions concerned water and sewerage networks for civil use.

The water infrastructure has suffered damage mainly due to silicates produced by the earthquake and from the rubble which entered the aquifers.

This problem required a complete replacement of the electric pumps used to lift the water.

The local authorities needed machines that could not only lift clean water and water with small solids but which were also capable of withstanding the deterioration caused by the silicate-rich water.

Another detail, not to be underestimated, was the high manometric head required from the plant with a total difference in height of about 70 meters. It was therefore essential to calculate the working point correctly and to provide high-performance pumping stations.

### Solution

Zenit Group engineers working on site identified the UNIQA series as the most suitable as a result of its high standards of energy efficiency and reliability.

To counteract the erosive action of silicates in the water, a solution with a vortex impeller treated with the Molib-Tech surface hardening process was chosen.

This treatment, adopted by Zenit, considerably increases the resistance of the hydraulic parts to abrasion and wear from rubbing, guaranteeing the maintenance of hydraulic performance and increasing the life cycle of the pump over time.

### Benefits

By installing Zenit UNIQA pumps, Gran Sasso Acqua was finally able to solve the problem of erosion by silicates. The use of Molib-Tech increases the resistance and consequently the reliability of Zenit UNIQA pumps.

The required head of 70 metres was achieved thanks to the modular construction of the UNIQA series, according to which each electric pump is designed exactly at the required working point, coupling impeller, hydraulic and motor on the basis of the unique characteristics of each plant.

In addition to the operator, the benefits of this solution are also appreciated by the entire community of Roio Piano, that will now count on a more efficient and reliable water supply.



The wastewater to be lifted



Installation of the UNIQA pump in the sump

<b>Customer</b>	Gran Sasso Acqua				
<b>Company Profile</b>	Water board				
<b>Location</b>	Roio Piano (L'Aquila)	<b>Country</b>	Italy	<b>Area</b>	Europe
<b>Application</b>	Lifting of water with silicates				
<b>Installed Products</b>	ZUG V 080D 37/2 HW 210R				
<b>Date</b>	May 2018				