



RotaCut®: Avoid clogging of progressive cavity pumps due to heavy and fibrous matter

Case Study - eco center S.P.A.



Problem

High maintenance effort and costs at primary sludge pumps due to foreign matter

Solution

Vogelsang RotaCut RCQ-33G Inline

The customer and the problem

eco center S.p.A. is a public water management company and ensures water supply and purification of wastewater in the optimal territorial area (ATO) 2 of the Province of Bolzano. Therefore they operate the sewer network and 21 wastewater treatment plants. Among others also the Bronzolo plant with a capacity of 342.000 population equivalent.

The plant starts up operation in 1996 and purify the wastewater of the municipalities of Bolzano (S. Giacomo hamlet), Nova Ponente, Laives, Bronzolo e Vadena, which means in total approx. 3.500.000 m³ wastewater per year (in average 2.400.000 m³ domestic and 1.100.000 m³ industrial wastewater).

Due to coarse material and fibrous matter such as rags, they had frequently blockades in the progressive cavity pumps that are part of the primary sludge treatment system. Additional the malfunctions had negative impact on the operation of the whole plant and the operator was faced with high effort and costs for troubleshooting.



The solution

In 2019, after consultation by Vogelsang and a careful analysis of the situation and possible interventions, the plant manager chose to install two Vogelsang RotaCut RCQ-33G Inline macerators with 5.5 kW, to protect the two progressive cavity pumps against clogging. The inline design allowed the installation without the need for changes of the existing pipework.

The RotaCut separate heavy material reliably by intercepting them in the pot and at the same time chop down fibers, which previously blocks in the pumps. Since then the post thickening sludge reaches the dewatering without fibrous and coarse materials but with high homogeneity. The machines are equipped with ACCplus, which fully automatically adjust the blades and keep the pressure between the blades and cutting sieve constant. Additional the wear of the blades is monitored on an external display. That make it easy for the operator to check out the status of the cutting head and order spare parts in time and plan the maintenance.

Another function managed by the PCU Control is the reversion of the rotation direction. If coarse and bulky bodies block the RotaCut, the PCU control reverses the direction repeatedly until the material is macerated. Equipped with a frequency converter the speed and thereby the power consumption of the system can be reduced.



Vogelsang RotaCut

Advantages of the RotaCut®

- Reliable maceration of fibers and coarse materials
- Reliable heavy matter separation
- Quick and easy to retrofit
- Fully automatically blade adjustment

Benefits for the user

- Protection against blockages and malfunctions of the sludge pumps and downstream equipment
- More homogeneous and flowable sludge
- Easy on-site maintenance
- Thanks to ACCplus, easy to schedule maintenance in advance

Mentioned Vogelsang product

[RotaCut: Wet cutter with heavy material separator](#)



Mentioned Vogelsang product

[RotaCut: The wet cutter for wastewater applications](#)



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