

CASE STUDY

Sulzer solves motorway jams

Muffin Monster grinders and Piranha pumps keep things moving on Austria's highway network. Drivers rely on motorway rest areas and service facilities to ensure their comfort and safety on long journeys. However, for Austrian operator ASFiNAG, heavy use of these facilities was leading to maintenance headaches. Now, thanks to Sulzer's Muffin Monster™ grinder and Piranha pump technology, wastewater pump blockages are becoming a thing of the past.



“Our customers expect our services to be available whenever they need them, day or night. Improvements like this are part of our proactive approach to the continual improvement of our facilities. The Sulzer technology has proved to be completely reliable, cost-effective and problem-free.”

Alexander Holzede | press officer at ASFINAG

ASFINAG operates 87 fully-equipped service areas across Austria's motorway network, offering fuel, food, toilets and washrooms, along with a further 55 rest areas equipped with showers and toilets. Often situated in remote locations, most of these facilities use their own sewage pumping stations to remove wastewater from site.

As standard, the company uses high pressure technology in these stations. Submersible grinder pumps break up solids and pressurize the wastewater before transporting it through small-diameter (DN50) pipes to the municipal wastewater network. The approach is a proven and cost-effective solution to the challenges of wastewater handling in places where conventional gravity sewer networks cannot be used.

Heavy traffic

Over time, however, changes in customer behavior have created problems for ASFINAG. While grinder pumps can handle wastewater reliably for many years with minimal attention, they can be blocked by large, sudden volumes of unconventional materials, such as wet-wipes or diapers. Furthermore, tougher items that cannot be shredded by grinder pumps collect in the sump over time. With more of these materials finding their way into the wastewater system at certain sites, the company's maintenance teams were being called out almost every week to repair blocked pumps.



Sulzer engineers proposed an a Muffin Monster 10k low speed grinder and two Piranha grinder pumps which would use Sulzer's unique cutting technology to further reduce the solids, and generate the pressure required to transport the wastewater away from the site.

Lifting and clearing these pumps from the wet well of a sewage pumping station is costly, unpleasant and time-consuming work. Furthermore, with no effective way of dealing with the wastewater, ASFINAG sometimes had no choice but to temporarily close the toilets at affected sites while repairs were undertaken.

Cutting the problem down to size

When ASFINAG was designing a new service station, its facilities management team asked wastewater specialists at Sulzer if they could support the project. After surveying the site, the Sulzer engineers proposed an approach that introduced new lines of defense. First, a Muffin Monster 10k low speed grinder would receive the wastewater before it entered the wet well, efficiently shredding and crushing large debris before it reached the pumps. Then, two Piranha grinder pumps would use Sulzer's unique cutting technology to further reduce the solids, and generate the pressure required to transport the wastewater away from the site.

Sulzer built and delivered the pumping station as a complete contract, designing and constructing the pump control panels as well as supplying the pumps and grinder. Since its installation in December 2020, the site has suffered no further issues with pump blockages. Based on the success of this installation, ASFINAG has ordered two more Muffin Monster units. These will be installed at another site to replace a system which removes debris and places it in a skip, eliminating the costs associated with skip removal and waste disposal.



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